ESTABLISHED IN 1872

PAPER TRADE JOURNAL

PAPER

SIXTY-FOURTH YEAR

PAPER

Established Feb. 17, 1899
Consolidated Nov. 16, 1899
with PAPER TRADE JOURNAL.

Vol. CI, No. 11 Thursday, September 12, 1935

Established Sept. 21, 1910
Consolidated Feb. 19, 1925
with PAPER TRADE JOURNAL.

New York Mills Report Decided Improvement

Representative Paper Manufacturers in the Northern Section of the State Assert That the Trend Is Upward and That the General Outlook Is Bright—Bagley & Sewall Co., Well Known Paper Machinery Builders, of Watertown, Report a Marked Improvement in the Volume of Business During the Past Few Months

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., September 9, 1935—Paper mills in this section report a decided improvement in business for the year so far over a similar period last year. Leaders in the industry claim the trend is upward and that the general outlook is very bright.

Bagley & Sewall Co. Report Improvement

The volume of business done by the Bagley & Sewall Company has shown a marked improvement within the past few months, according to an official, who said that orders are larger than in some time. He stated that machine rebuilding orders run into quite large figures while the company has a lot of smaller jobs. The company is very busy with prospects considered excellent. A slightly reduced force is being employed full time in handling the work. The company is optimistic regarding the future and feels that paper mills throughout the world are bound to get their equipment in order which consequently means rebuilding and building of new equipment at the plant here. A leading official declared that the appearance of the paper business is healthy and that it is slowly regaining normalcy.

Knowlton Bros. Say Business Is Better

Knowlton Brothers, Inc., report full time schedules in effect and business healthy. The head of the company said that things are a good deal better than they were last year and he feels reasonably certain that the business outlook is brighter. National legislation has been our great difficulty, he said, but we are going ahead in spite of it.

A leading official of the Sherman Paper Company said that business is much better than a year ago with indications that it will be much better during the remainder of this year. The company is definitely out of the depression, in his opinion, and business is going upgrade slowly but apparently certainly.

Rockland Paper Co. Starts

WILMINGTON, Del., September 9, 1935—Operation of the Rockland Paper Company, Inc., which, last May, obtained the Rockland mills of the Jessup and Moore Paper Company, started early this month with approximately 60 workmen, it was announced through the Chamber of Commerce.

The initial operations will affect only about one-third of the plant, but within six weeks the entire plant will be at work with about 200 employes.

The work of modernizing and motorizing the plant has been completed. The company will manufacture glazed paper, which will later be converted into transparent wrapping paper of a type for use in the wrapping of bread and the like, and will also probably manufacture paper specialties.

Dr. Charles A. Ernst, of Ridley Park, Pa., is president of the company. The superintendent is J. T. Tong, formerly connected with the Jessup & Moore Company.

Wood Pulp and Pulpwood Investigation

The Tariff Commission announces that in accordance with Senate Resolution 200, adopted August 24, 1935, an investigation, under section 332 of the Tariff Act of 1930, will be held with respect to pulp wood and wood pulp. The resolution reads as follows:

RESOLVED, That the United States Tariff Commission, under authority conferred by Section 332 of the Tariff Act of 1930, is directed to investigate and report to the Senate, all facts relating to wood pulp, or pulp wood, showing the volume of importations compared with domestic production, and the conditions, causes and effects relating to foreign competition, and all other facts showing the differences in, or which affect competition between, the production of wood pulp, or pulpwood, in the United States or that imported in the principal markets of the United States.

W. W. Snyder Mfg. Co. Builds Addition

[FROM OUR REGULAR CORRESPONDENT]

COHOES, N. Y., September 9, 1935—Plans are under way for the construction of a new addition to the plant of the W. W. Snyder Manufacturing Company, here which will be used for warehouse purposes. The structure will be three stories high and will be located in the rear of the main buildings. It will be built at an estimated cost of $3,500 and replaces the structure destroyed in the fire several months ago. The concern manufactures paper boxes.

Activities of the Wisconsin Paper Mills

Water Transportation of Pulpwood and Pulp to Badger State Plants Being Completed for Season—Experiments Proceeding At Madison to Produce Toughest, Lightest Board At Lowest Cost for Benefit of Carton Manufacturers

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 9, 1935—Movement of pulp and pulpwood to Wisconsin mills via water transportation is being completed for the season. The tug *Butterfield* brought its last raft of 11,000 cords of wood across Lake Superior from the Black Bay region of Canada last week. It was towed to the Consolidated Water Power and Paper Company's rail loading hoist at Ashland, Wis., for reshipment to the mills at Wisconsin Rapids and Biron, Wis. The Consolidated's total rafting for the season was 36,000 cords.

A cargo of 1,500 cords of pulpwood was brought from Canadian ports to DePere, Wis. last week by the steamer *Lawrendoc*, and reloaded on river barges for delivery to the Kimberly-Clark Corporation's mill at Kimberly, Wis. This was the second shipment for the Kimberly mill this season.

Marathon Paper Mills Company has received 3,000 bales or 500 tons of pulp from Sweden aboard the steamer *Lawrendoc*, after reloading at Montreal. Delivery was made to the company's tissue division at Ashland, Wis. A cargo of 6,750 bales, or 1125 tons, previously was delivered by the steamer *Prescodoc*.

Forest Products Laboratory Research

Large quantities of fiber board have been run through in the experimental paper mill at the United States Forest Products Laboratory in preparation for its research project to produce the toughest, lightest board at the lowest cost, for the benefit of carton mills and shippers. The sheets have been turned over to the mechanics section to be shaped into boxes. They will then undergo strain and resistance tests, and will be subjected to a mechanical "baggage man" to be put through the most strenuous handling and buffeting to which any shipment could be subjected. Out of these experiments, the laboratory hopes to do for the carton industry what it accomplished for the wooden container industry in the development of cartons that meet exact specifications for various uses at a much lower construction cost than formerly, and at a mammoth annual saving to shippers in payment of damage claims. The laboratory finds that there has been practically no improvement in fiber board specifications in twenty years.

The laboratory several years ago perfected a process to remove from strawboard fillers for egg cases the musty, strawlike odor absorbed by the eggs.

Further perfection of processes is anticipated which will enable mills to make greater use of domestic woods for paper. The objective is to wipe out eventually the $250,000,000 annual imports of paper, pulp and pulpwood so the United States can produce all the paper it needs. Through perfection of the rod mill, the laboratory made possible the use of hardwoods such as maple, chestnut, gum and others for paper, and is continuing its experiments along other lines.

Scientists of the laboratory also are seeking uses for the lignin content of woods, left over after the cellulose has been extracted for paper, cellophane, rayon and other products. Lignin constitutes 28 per cent of the wood, and although it has been considered a nuisance and a costly item in the processes of separation, it is believed it may in time prove to be even more valuable than cellulose.

Code Hours and Wages Maintained

Paper mills of Wisconsin are still adhering in the main to the hours and wages adopted while the NRA codes were in force, according to a survey covering the month of July and the first two weeks in August. In all the industries in Wisconsin there were only 23 instances of increases in hours, two of wage decreases, and two increases in wages and decreases in wages combined. Only eight instances of price cutting have been reported for all industries. This indicates that the improved price status accomplished under NRA is still practically intact. The National survey shows 45 instances of deviation in hours in the paper industry, nine in decrease of wages, and 41 in price cutting.

Defends Industrial Situation

Although considerable has been said and written about industries moving out of Wisconsin because of tax opression, one of the staunch defenders of the state as a good location for industries is John L. Barchard, president of Hummel and Downing Company, Milwaukee, Wis., employing 600 persons in box manufacture. He declares companies moving out are making a mistake, because they will find taxes in some form or another higher in other states than Wisconsin. By moving away, they give up the privilege of having the best class of labor in the United States.

"Taxes are lower, per capita, in Wisconsin than in most other industrial states with which Wisconsin manufacturers compete," says Mr. Barchard. "Labor disturbances are relatively small compared to metropolitan districts in other states. Furthermore, I feel Wisconsin has the best State Government in the United States and I think Governor LaFollette's ideas on sharing the wealth, as personally expounded to me, are economically sound."

News of the Industry

Slight damage was caused by a fire last week in a sulphur bin at the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis. A slipping conveyor belt, clogged while a carload of sulphur was being unloaded is believed to have caused the fire by friction.

George W. Mead, president of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., and Mrs. Mead, are en route to England aboard the new French liner *Normandie*. They will be gone about five weeks during which Mr. Mead will look after business interests of his company, and will tour Sweden and Germany as well as England.

Injuries suffered in a bad fall August 29 at the Marathon Paper Mills Company's mill at Rothschild, Wis., were fatal to William Thiele, who died September 4 at his home at Wausau. He is believed to have fallen from a ladder or conveyor. He was found lying on the floor in the mill unconscious, but nobody had witnessed the accident. He had been employed by the company for twenty years.

Paper Industry Optimistic In Chicago

Outlook for Newsprint Paper Improves—Demand for Kraft Wrapping Paper and Groundwood Papers Well Sustained—Various Grades of Fine Paper Rather Quiet—Sulphites Holding Up Fairly Well—Paper Stock Section Little Changed

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., September 9, 1935—While the local paper market did not develop after Labor Day as expected there still is plenty of optimism over the near future. Prices are continued firm and there is evidence that these may move up as the paper industry slowly follows the move of other commodities and the business improvement in general. Buyers of paper seem to have ceased to look for bargains and this, coupled with the cooler weather that is helping retailing, may hurry things along later in the month.

Expected To Clarify Market Situation

Meetings in New York next week and the sessions of the book paper groups in Kalamazoo at the same time are expected to clarify the market situation. Locally, demand has not picked up to any extent. Two of the grades which haven't fared any too well in the past in comparison with other papers gave perhaps the best account of themselves during the week. The one, kraft, held up well and the other, groundwood, was reported quite encouraging as buyers began to move in. Sulphites were quoted as "doing as well as could be expected" which seems to go for the entire fine paper line. Books and covers were quiet as general business endeavored to throw off the effects of congressional adjournment. Newsprint reported a better outlook. Waste papers were not subject to the changes expected following Labor Day and are following a quiet medium trend at the present time.

Protests Loan for New Kraft Mill

The *Chicago Journal of Commerce* utilized its issue of September 4 to take up the cudgels in behalf of the kraft paper industry. An editorial, addressed to workers in kraft paper mills in the United States and "to all workers who may have assumed that only big business and the rich are being soaked by the New Deal," calls attention to the dangers involved in the appropriation of $4,000,000 to build a new kraft paper mill in Arkansas. A part of the editorial reads as follows: "Not only are some kraft paper mills still in the 'red' but shipments of the industry as a whole, even in 1929, averaged only 70.16 per cent of capacity. In 1934 the rate was but 59.50 per cent of capacity. Yet, in the face of these facts, which have been called to the attention of the RFC, someone in authority decided to go ahead with the loan, which will be used to build a new mill. It is true, as the proponents of the loan claim, that the action will utilize the pulpwoods of Arkansas. But who will buy the product of the new mill? Unless total consumption can be increased some existing mill must sell less. This means fewer hours of work for some now employed . . . By no stretch of imagination was the RFC created to take action which logically can be expected to reduce jobs in one community while increasing them in another . . . What the action means to the workers in every kraft mill in the country is new and unnecessary competition for their employers which in turn may put some workers' jobs in jeopardy . . . Write your congressman at his home, to be sure; but better, if you can, buttonhole him and tell him to stop this racket before it stops both your job and his as well."

Salesman Plan Final Golf Outing

Friday, September 27, has been selected as the date for the final outing of the Salesmen's Association of the Paper Industry, Midwest Division. The golf event will again be held during the time of the National Paper Trade Association meetings insuring a record turnout and a large number of visitors from paper ranks. The party will be held at the big Olympia Fields Club with its four eighteen hole courses and spacious clubhouse. Meanwhile, Ben Babbitt, golf chairman, set a new high for August events when a big crowd assembled on August 16 to try out the Knollwood Country Club course. Included in the prize winners were Bill Tilden, low gross; Hank Fulton, low net, 17 handicap and under; George Gibson, low net, 18 and over; Fred Oberwetter, low net, first nine; Clarence Rasmussen, low net, second nine; Carr Sherman, Warren Moore, Jack Burrus, George Fay, Harold Leahy, Ray George and Bill Tilden, low putts prizes; Courtney Reeves, low gross par three holes; Harry Johnson, low gross par five holes; John Loughrin, high gross; Tommy Hosch, high net and Hans Christianson, blind bogey. The low net foursome was composed of Clarence Rasmussen, Paul Wesco, Spence Heberling and Harry Birt. Fred Ostermeyer, Harold Knott, Bill Jackson and Elmer Schmidt captured second low net honors.

News of the Industry

For those who like to study direct mail possibilities, a recent statement of the Brown Paper Goods Company, Chicago, may be interesing. An attractive folder, "Do You Know?" tells the reader that identical mailings in envelopes instead of self mailers produced over 37 per cent more returns. That over 65 per cent of all executives open their own mail. That mailings which enclose self addressed business reply envelopes pull over 50 per cent more returns than when envelopes are not enclosed and that envelopes produce a "much higher quality of inquiries and a greater percentage of sales than return cards."

The local printing industry and users of advertising and direct mail papers in general has taken quite an interest in the new customers room being operated by the Messinger Paper Company. The new department in the adequate headquarters of the Chicago jobbing firm provides an elaborate and tastefully designed and furnished sample room and complete library of printed specimens of letterheads, catalogs, pamphlets, brochures, etc. Designed after a great deal of study, the room permits salesmen and their customers to enjoy the private inspection of samples all well indexed and arranged to be found instantly. The salesmen, in particular, are reported as finding the room invaluable as an aid in selling paper.

The Link Belt Company, Chicago, has met the demand for greater range and flexibility of application in speed transmission by designing new features in the P.I.V. Gear Variable Speed Transmission. This permits the entire line to be furnished in the following combinations and sizes: motorized with motor forming an integral part of unit; with or without speed reduction gearing; with horizontal or vertical box and in five sizes up to 15 hp.

Boston Paper Industry Conditions Favorable

Sentiment In Fine Paper Division Generally Optimistic, With Higher Quotations Indicated Shortly—Outlook for Coarse Paper Section Encouraging—Box Board Only Moderately Active—Paper Stock Prices Slightly Stronger

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., September 9, 1935—Conditions in the paper market here continued generally favorable, business averaging good for the first week of September. The sentiment in the trade is optimistic, as a whole. At one prominent house it was stated that August was all that was anticipated, being only a fraction of one per cent off from the quota. It is expected that fine paper will advance in price about October 1. The situation in wrapping paper is encouraging, with at least a fair volume of sales during the week under review. The price situation in paper bags is improving. Box boards were fairly active, but not so much so as they should be. Twine is in about the same position as previously quoted, the processing tax difficulty continuing.

As was expected, paper stock improved during the week. Coarser materials were very firm. Under old papers, mixed papers and old newspapers were in good demand. One of the large concerns advanced prices $1.00 per ton on each of these grades. Mixed papers advanced to .25 @ .30 from .22½ @ .25 per hundred weight and old newspapers to .27½ @ .30 from a flat .27½. It is stated that mixed papers should be selling at $9.00 to $10.00 per ton. It is reported that waste paper is selling at better prices in New York and Chicago than it is here, but it is said that the Boston market will probably be equal to the other markets in price before long. Under bagging, domestic gunny No. 1 rose to a flat 1.50, compared with a previous quotation of 1.40 @ 1.50 and new burlap cuttings to 1.75 @ 1.90 from 1.60 @ 1.75. New domestic rags held firm at the same levels. In old domestic rags, roofing stock, No. 2 grade advanced to 1.50 @ 1.60 from 1.40 @ 1.50. The other grades of roofing stock remained strong. Roofing rags, like low grade waste papers, are said to have been selling at too low prices for some time. Under foreign rags, dark cottons have appreciated in value to 1.55 @ 1.65 from 1.50 @ 1.55.

News of the Industry

Sales meetings were held at the offices of four representatives of the Strathmore Paper Company, West Springfield, Mass., last week.

At the office of Carter, Rice & Co., Corp., with Frank H. Winter, sales manager, presiding, L. E. Maglathlin, vice-president and sales manager of the Strathmore Company, introduced C. E. Norton, who outlined the fall and winter merchandising and advertising program on Strathmore papers. Particularly important is a new line developed by that company, Olde Laid, an attractive paper, with a distinctive marking made in a variety of colors in both book and cover weights. Another feature is the addition of colors to the Strathmore Silver Plate line, also Aladdin Cover. Mr. Norton announced that the Strathmore Fairfield, formerly an open line, will henceforth be sold on a restricted agency basis. He presented the new 1936 Strathmore handbook, incorporating all the above changes, which will be distributed to printers throughout New England.

A similar meeting was held at the office of Storrs & Bement Company Friday evening, with Wm. N. Stetson, Jr., president, presiding. Mr. Maglathlin spoke and Ebert Hughes presented the advertising program.

At a meeting at the office of the Arnold-Roberts Company, Friday afternoon, Messrs. Maglathlin, Norton and Hughes spoke.

At the office of Cook-Vivian Company, Saturday morning, Mr. Hughes presided, presenting the program.

The representatives of the Strathmore Company were very optimistic in regard to the future of high grade papers. Their high grade papers showed a steady increase in sales last year and this year so far.

The Marvellum Company, Holyoke, Mass., of which Henry L. Goodman is a representative, has issued a new sample swatch of box coverings, Icicle cretonne papers, made in white, gray, buff, C blue, light pink, light green, light yellow, blue, dark green, scarlet and black.

The Beveridge Marvellum Company, Holyoke, Mass., has sent out a book of Kivar No. 5 pyroxylin coated box coverings. Kivar No. 5 is an unusual box paper, with a superb imitation leather finish of the finest quality—its surface wearing qualities are equal to cloth fabric base materials. It is thoroughly waterproof and may be washed with soap and water—exceedingly suitable for semi-permanent dual-purpose gift boxes and cases. It is especially suitable for leather novelties, box coverings, luggage linings, turned edge work, and many types of bindings. This paper is made in the following standard colors and finishes: White crush, silver crush, black morocco (two tone), red skiver, gold Levant (two tone), blue crush, green morocco, brown Levant, copper Levant, white Levant, black skiver, red Levant, copper Levant (two tone), blue fox calf, green crush, brown morocco, black Levant and gold crush.

The first sales meeting of the season of John Carter & Co, Inc., was held at the office of the company Saturday morning, with Leon M. Poore, director of sales, presiding.

D. F. Munroe Company, paper merchants, of 289 Congress street, announce that Roger Manning joined the sales force of that concern, as of September 1. He will give his special attention to building up the sales of envelopes and drinking cups. Mr. Manning has had several years experience with these lines and in addition to his personal sales will work with the other salesmen.

Charles W. Fields, vice-president of the Baird & Bartlett Company, has returned from a two weeks' vacation at Bath, N. H., on which he was accompanied by Mrs. Fields.

Benjamin C. Spaulding, secretary of the Baird & Bartlett Company left Saturday for a two weeks' vacation with Mrs. Spaulding at Cranberry Island, Me.

Charles J. O'Brien, of the sales force of Baird & Bartlett, is passing a week's vacation with his family on Cape Cod.

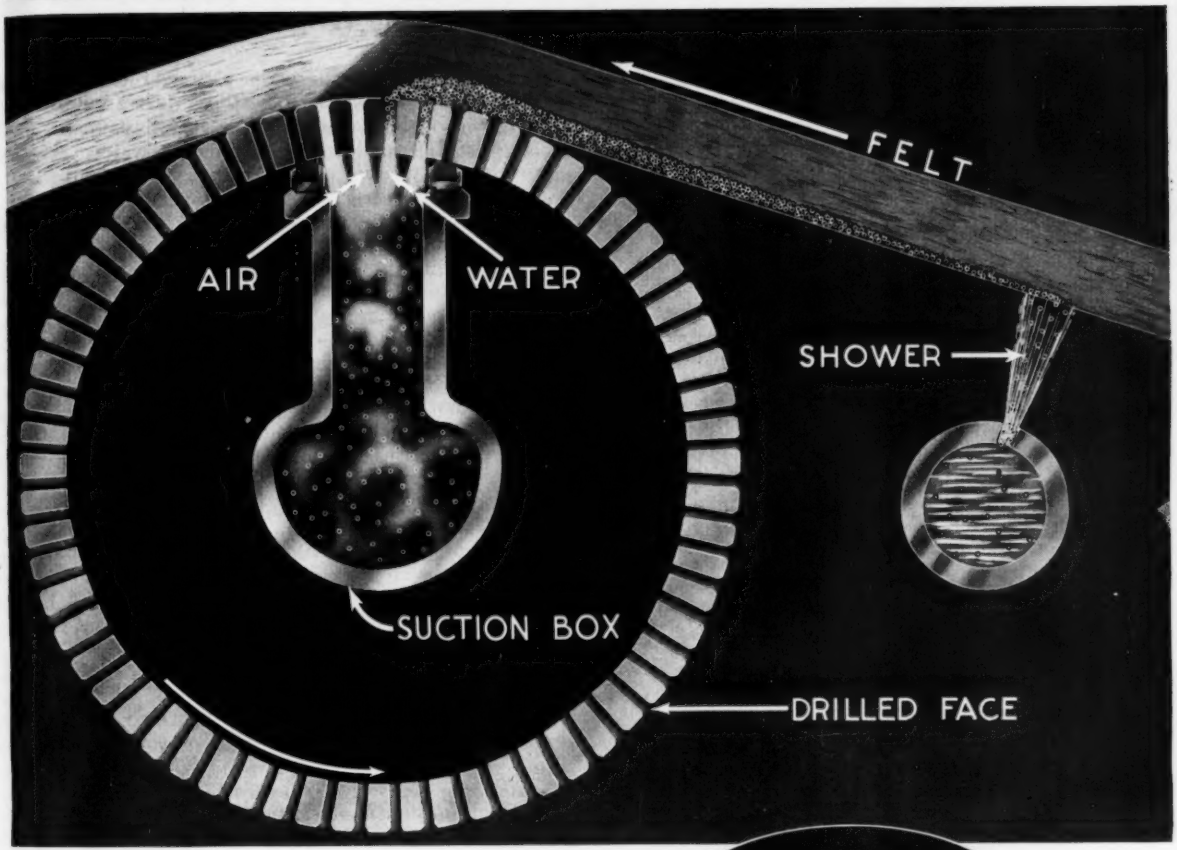
E. H. Little, paper buyer for John Carter & Co., Inc., one of the veterans in the trade, is making a trip through Vermont.

William N. Stetson, Jr., president of Storrs & Bement Company, has returned from a vacation on the Cape.

George Whittaker, of the office of the Natick Box and

(Continued on page 23)

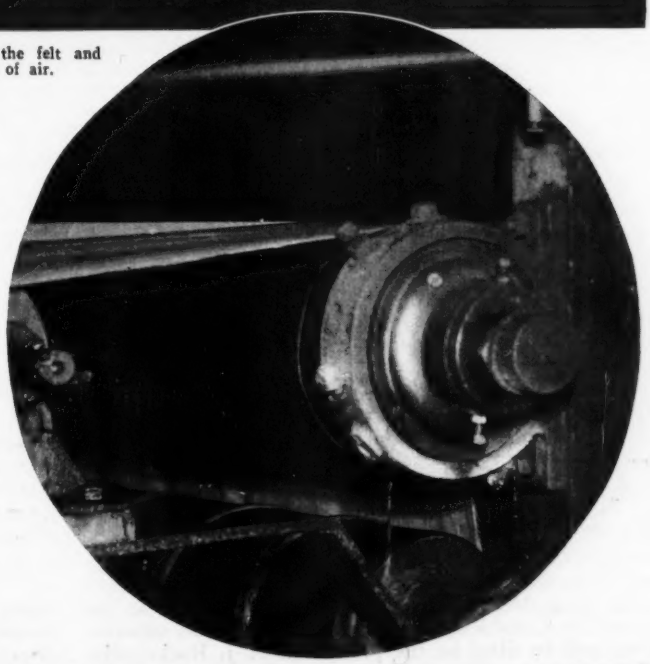
DOWNINGTOWN



Water from the shower, thoroughly cleanses the sheet side of the felt and immediately passes into the suction roll with a large volume of air.

CONTINUOUS FULL WIDTH FELT CLEANING

Travel of the felt turns the Downingtown Suction Felt Roll, thus there is no friction drag, no rubbing wear and no stretching, ironing or matting down of the felt. Felts cannot fill-up, therefore slowing down the machine, or shut-downs for washing and roping are unnecessary. Saves its cost in a few months' time because it extends felt life 25% to 100%; increases average production of machine; uses only one-tenth the power consumed by the drag of flat suction boxes. . . . Write for Catalog: The Downingtown Mfg. Co., Downingtown, Pa.



KEEP YOUR FELTS CLEAN WITH A SUCTION ROLL

Paper Mill Activity Increases In Ontario

Numerous Inquiries Abound for Various Standard Grades of Paper—Demand for Fine Papers Somewhat Irregular—Small Lot Sales Dominate the Kraft Paper Market—Tissues and Toilets In Excellent Request—Paper Box Industry Quiet

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., September 9, 1935—With the termination of the holiday season the wholesale paper trade in Ontario is showing distinct signs of revival, although some lines are still a little draggy. There is, however, a distinct improvement in enquiries and that these will be translated into a brisk market as the autumn season advances are generally anticipated. Mill activity, also, is slightly on the increase.

As a result of two weeks' record attendance at the Canadian National Exhibition in Toronto, with its vastly increased sales of practically all commodities, the paper trade benefited materially, the big show being responsible for a large consumption of paper.

A number of the firms turning out paper and paper products had attractive exhibits and demonstrations and in many lines of both fine and coarse papers the importance of the industry to Canada was illustrated. Such firms as the Interlake Tissue Mills, Rolland Paper Company, Canada Paper Company, W. J. Gage Company, Dominion Box Board, Dennison Manufacturing Company and the E. B. Eddy Company displayed their wares attractively and satisfactory results were obtained both in sales and in advertising.

Firms manufacturing Bristols, cover papers and tag manillas report an improved volume of sales. These are of Canadian make, as are also good-selling lines of blotting papers. In fine papers, such as bonds, ledgers and writings the mills report a rather spotting condition as yet but some nice business is turning up in some quarters and there appears to be less difficulty keeping the machines in operation than has been the case in some weeks. There is a fair demand for waxing, greaseproof and glassine and there is little to complain of in the sales and output of the light weight paper mills. Demand for tissues and toilets has kept up well even during the holiday season, while most specialty lines are moving quite well. Conditions in the coarse paper market are not as satisfactory as might be desired. Small lot sales continue to prevail and the volume is correspondingly light. Paper converting lines are still moving slowly and the paper box industry is quiet except for set-up boxes which are moving fairly well.

Notes and Jottings of the Industry

Lord Baden Powell and his wife and daughters were the guests of Viscount Rothermere and the Anglo-Newfoundland Development Company, Ltd., when they visited Grand Falls, Newfoundland, recently. The Chief Scout and his family were conducted through the pulp and paper mills and showed great interest in all they saw.

G. B. C. Johnston, director, of Wiggins, Teape & Alex Pirie (Sales), Ltd., London, Eng., and his brother, Rutherford Johnston, of Johnston Horsburgh & Co., London, paper agents, are just now visiting Canada and will look over a number of the paper mills.

Control Engineer E. N. Hunter, of the Great Lakes Paper Company, Fort William, Ont., has been appointed sulphite superintendent, filling the position vacated at the death of M. J. Ashley. The position of assistant superintendent will be filled by the promotion of J. Rocke, who has been in the employ of the company since its institution.

The groundwood mill of the Nipigon Corporation at Nipigon, Ont., is now operating three days a week. Some dredging has been done recently in the harbor which will facilitate the shipping of the product by water. The mill has a capacity of sixty tons a day.

Ivan Moffitt, secretary of the Canadian Paper Trade Association, has returned to Toronto after a holiday stay in Muskoka.

John Piper, sales manager of Provincial Paper, Ltd., Toronto, has vacated his desk at the office while he spends a couple of weeks' holiday touring in his car.

Sets of samples of the new mica-finish coated paper in tints and whites, with a variety of very beautiful finishes, have been sent out by the Valley field Coated Paper Company. The effects are the same as those obtained with the complicated epsom salt and glue formulae. The stock is well suited for greeting cards, set-up boxes and many other specialties.

The Don Valley Paper Mills, Toronto, are engaged in the erection of an addition to the manufacturing building, the object of which is to house a special type of basting machine now being made in England. The company is also putting in a large Rowe embossing machine of English make. The first of these machines will be in operation in November and the other in January.

The pulpwood peeling season is finished for this year in Northern Ontario, and nearly 2,000 men who have been working in the bush camps have returned to the cities. Only those who are still piling their wood are left in the camps. Mayor C. W. Cox, M. L. A., of Port Arthur, estimated that nearly 100,000 cords of pulpwood, including spruce, balsam and poplar, had been cut during the summer season. Considerably more would have been cut had the strike not developed. Timber operators in the district state expect that cutting of rough pulpwood will start during the latter part of September.

Canadian International Paper Company, Temiskaming, Ont., will spend over $300,000 in alterations to the plant to extend the use of "cloat," a liquid preparation obtainable in England, which produces a white pulp and makes material proof against change in color in the manufacture of rayon silk. The company will also spend $50,000 for new stokers and $50,000 for twenty dwellings for employees.

New Francke Coupling Catalog

The John Waldron Corporation, New Brunswick, N. J. has just published an attractive new catalog describing and illustrating the important changes which have recently been made in the Francke Flexible Coupling. The new catalog has been issued coincident with the new sales policy recently inaugurated whereby Francke Flexible Couplings and replacement parts, formerly sold through general sales agents, are now offered directly by John Waldron Corporation, the original manufacturers. In addition to describing the important changes in design and materials, the new catalog gives complete tables of sizes for various types, full directions for size selection and coupling service factors. Copies of this new catalog may be had by writing direct to John Waldron Corporation, New Brunswick. N. J.

Paper Industry Confident in Philadelphia

While Prevailing Demand for Various Grades of Fine and Coarse Papers Is Only Moderately Active, Volume of Sales Surpasses Record of Corresponding Period Last Year—Lower Grades of Paper Stock Attract Greater Attention

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 9, 1935—An augmented Fall impetus is predicted in the paper industry here. While jobbers of both fine and general lines of coarse papers found the past week seasonally quiet the comparison far exceeds the corresponding week of a year ago, and forecasts for the Fall are established on so firm and commendable basis that there is complaint nowhere.

In the paper stock market, a little better demand for lower grades is reported, although prices have not moved up. Merchants here have been expecting a further advance in prices on lower grades, and are marking time, hopeful of realizing this expectation. Other grades are moving but this movement is so slow that nothing much can be said in favor of improvement.

Opposes Loan for New Kraft Mill

George W. Ward, president of D. L. Ward Company, 401 North Broad street, and chairman of the committee on National Legislation of the Paper Trade Association of the United States, Inc., has sent the following letter under date of September 9th to Pennsylvania Senators and Representatives protesting the intention of the Reconstruction Finance Corporation to finance a kraft mill at Crossett, Arkansas, by loaning $3,800,000, and Mr. Ward has urged all paper houses throughout the country to write their Senators and Representatives deprecating this loan. A similar letter has also been sent to the Chamber of Commerce of the United States. Mr. Ward's letter in its entirety reads:

"As Chairman of the Committee on National Legislation of the National Paper Trade Association of the United States, Inc., an organization representing some five hundred distributors of paper throughout the United States, I am receiving letters asking me to voice to you our very definite protest against the intention of the Reconstruction Finance Corporation to advance money to help finance a Kraft mill at Crossett, Arkansas. The loan, I understand, is for approximately four million dollars.

"In practically every division of our business our industry is suffering from over-production, and in the division of kraft paper we are probably more affected than in almost any other division. For the Government to lend its support to the increased production of an item now already over-produced is obviously a harmful governmental interference to our industry, and in the final analysis harmful to the Government itself. The Government is certainly more than ever dependent upon income taxes to support its vast program. Over-production in any line kills profits and therefore kills the possibility of income taxes. As profits are killed incentive for production ceases, and unemployment follows.

"In asking for your influence to prevent this loan, we at the same time ask your influence against any loan that would tend to increase the over-production of practically any standard grade of paper that we know of.

"So that I may pass on to my Association your views in this matter and what we may depend on in the way of your support, I would appreciate a prompt answer to this letter."

Association Activities

Fall activities in the fine paper division will have their inception at a luncheon meeting to be held at the Down Town Club on Wednesday of this week at 12:30.

The Philadelphia Paper and Cordage Association will hold its first Fall meeting on Friday, September 20 in the Adelphia Hotel. A tentative program has been arranged and this will be announced later.

A meeting of the Wrapping Paper merchants in Philadelphia has been called by the Philadelphia Paper Trade Association, at the Down Town Club, Thursday, September 12, at noon. C. A. Spaulding, assistant secretary of the National Paper Trade Association of the United States, Inc., and F. Bendel Tracy, vice-president in charge of the Wrapping Paper Division of that association will address the meeting.

News of the Industry

Charles McDowell, of the McDowell Paper Company, Manayunk, has just returned from a cruise along the coast of Maine on the yacht *Charmarie*.

James T. Stewart, general salesman for the Hooper Paper and Twine Company, is spending some weeks touring France and England. He expected to return to the States about the middle of September.

Ralph Keenan, representative of Whiting-Patterson Company, returned recently from a six weeks' tour of Europe. Mr. Keenan was accompanied by Mrs. Keenan and they had a very interesting trip, visiting Denmark, Sweden, Finland, Russia and other European countries.

Miss E. M. Edgar, in charge of the city sales desk at Whiting-Patterson Company, is spending her vacation at the seashore.

Simplified Practice For Glassine Bags

The Division of Simplified Practice of the National Bureau of Standards has announced that Simplified Practice Recommendation R107-31, Glassine Bags, has been reaffirmed without change by the standing committee of the industry.

This simplification program, which is concerned with the capacity, or use, size, packing, and basic weight of paper for flat and square glassine paper bags, became effective October 15, 1931. The current reaffirmation is the first action which has been taken by the standing committee since that date.

Copies of the recommendation may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at five cents each.

Newfoundland Newsprint Shipments

Newsprint production in Newfoundland this year shows a slight increase over last year and the industry as a whole seems to have reached a normal output, according to Consul General Harold B. Quarton, at St. John's. Some increase in price from present levels is desirable, however, says the report, if the mills are to enjoy a reasonable profit in operations.

Kalamazoo TAPPI Considers Lacquer Coating

The Kalamazoo Valley Section of the Technical Association of the Pulp and Paper Industry met Thursday evening, September 5 at the Kalamazoo Vegetable Parchment Company Community House, Parchment, Mich.

W. J. Lawrence Reports on European Trip

The first speaker was Mr. W. J. Lawrence, President of the Paper Makers Chemical Corporation, who spoke upon impressions he received on his recent trip to Europe where he visited a number of paper mills and industrial plants.

It was his impression that money is being spent freely in England and on the Continent, and that England is ahead of the United States in extent of recovery from the depression. Mr. Lawrence prefaced his remarks by urging attendance at the Atlantic City meeting, and also discussed the list of projects recently approved for the current year by the TAPPI Executive Committee.

Lacquer Coatings and Emulsion

The second speaker, F. K. Shankweiler, talked on the subject of the "Use of Protective Coatings for Paper," discussed the use and application of clear, dyed, pigmented and crystallizing nitrocellulose lacquers, as well as nitrocellulose emulsions. He outlined the possibility of varying lacquer constituents to accentuate properties as flexibility, gloss, sealing characteristics, moistureproofness, etc. He also mentioned the use of chlorinated rubber coatings and protective coatings prepared from synthetic resins.

Visit Paper Makers Chemical Laboratory

D. W. McCready of the University of Michigan was present and outlined plans for the Sectional meeting to be held at Ann Arbor in November.

Those present then visited the new laboratory of Paper Makers Chemical Corporation where refreshments were served.

Those who attended were M. R. Wilkins, Bryant Paper Company, Kalamazoo, Mich.; J. C. Wood, R. H. Hurst, M. C. Nelson, W. F. Hathaway of Kalamazoo Vegetable Parchment Company, Kalamazoo; F. L. Brown, Michigan Paper Company; M. F. Flotow, French Paper Company; Paul de Guebery, Michigan Paper Company; C. C. Schneider, Hawthorne Paper Company; A. W. Macvie, J. W. Coates, J. A. Cox, C. W. Stewart, E. J. Perry of American Can Company, Constantine, Mich.; E. A. Radant, Paper Makers Chemical Corporation; W. J. White and Hugh Smith of Kalamazoo Vegetable Parchment Company, D. W. Jayne, Jr., and J. F. Shuman, American Cyanamid and Chemical Corporation; Harold Heath, Rex Paper Company; Archie Webb, Bryant Paper Company and Allen Milham of same company; H. Nendorf, Rex Paper Company; M. Redmond, Kalamazoo Paper Company; A. C. Dreshfield, Paper Makers Chemical Corporation; Glenn Ingling, and P. F. Denner of Kalamazoo Paper Company; John Russell, Bryant Paper Company; J. E. Bauman, Kalamazoo Vegetable Parchment Company; H. R. Miller, Paper Makers Chemical Corporation; H. C. Bradford, Rex Paper Company; F. D. Libby, Kalamazoo Vegetable Parchment Company; W. S. Taylor, American Cyanamid and Chemical Corporation; D. D. Bachelder, Sutherland Paper Company; A. L. Sherwood of same company; L. H. La Liberte, Kalamazoo Vegetable Parchment Company; J. S. Evans and Lloyd Jordan of Upjohn Company; C. E. Murphy, Paper Makers Chemical Corporation; E. F. Whittington, Rex Paper Company; R. A. Hayward, Kalamazoo Vegetable Parchment Company; W. J. Lawrence and F. K. Shankweiler, Paper Makers Chemical Corporation; H. M. Annis, Allied Paper Mills; D. W. McCready, University of Michigan, Ann Arbor, Mich.; Ernest Turner, Paper Makers Chemical Corporation; E. G. Milham, Watervliet Paper Company, Watervliet, Mich., and W. J. Higbie, Paper Makers Chemical Corporation.

Fundamental Papers Feature TAPPI Meeting

An abundance of early hotel reservations and a promise of good sunshiny weather assure an excellent meeting of the Technical Association of the Pulp and Paper Industry at the Ambassador Hotel, Atlantic City, N. J., September 18th to 21st.

Wednesday in Philadelphia and Wilmington

On Wednesday, September 18th, everyone is requested to meet at the Pennsylvania Hotel, Philadelphia, at 10 a.m. From this location all trips will start. The men will be taken to Wilmington, Del., to visit the laboratories of the Hercules Powder Co. The ladies will be taken on a sightseeing trip through the Philadelphia Park System. The train for Wilmington will leave the B. & O. Station, 24th and Chestnut Streets, Philadelphia, at 11 a.m. Wednesday.

All people traveling by train are requested to ask for a certificate when purchasing railroad transportation to Atlantic City. These tickets should be routed via Philadelphia and the train conductor should be notified that a stop-over in Philadelphia is wanted. The certificate must be validated at Atlantic City to permit purchase of low rate return ticket.

A special train will take all visitors from Wilmington and Philadelphia to Atlantic City. This train will arrive at North Philadelphia Station at 4:45 p.m. The ladies will join the party here and proceed to the Shore. A delightful program has been arranged to entertain all who will be at the Ambassador on Wednesday.

Luncheon Programs

H. P. Carruth, President of Dill & Collins Inc., Philadelphia, will be the principal speaker at the Thursday luncheon. On Friday moving pictures will be shown of woods operations and on Saturday, F. J. Sensenbrenner of Kimberly-Clark Corporation will speak. The principal speaker at the Friday evening banquet will be Karl Compton, President of the Massachusetts Institute of Technology.

Fundamental Subjects To Be Discussed

The symposium of papers on Thursday deal with the relationship between pulp manufacture and the concept of the cellulose fiber. Dr. Ritter of the Forest Products Laboratory will discuss the morphology of the fiber. He will show the cable-like structure of fibers, how the spheroids are attached to the hypothetical micelles which again form the larger fibrillae, how layers of such cellulose

are wound around the fiber axis and are separated by lignin layers or coatings of non-cellulosic substances. For years Dr. Ritter has done pioneer work and has found out why certain fibers are strong and others soft.

Dr. G. A. Richter of the Brown Company will talk on the pulping treatment and the resultant fiber properties. Why different cooking processes produce different pulps will be explained.

After receiving good pulp in the paper mill it is still possible to run it by improper treatment. Dr. Rowland of the Institute of Paper Chemistry will discuss the colloidal aspects of cellulose. What happens when pulp is aged or overdried? Can hydration be accomplished chemically as well as mechanically? What holds the fibers together? These are subjects which will be considered.

R. H. Doughty of the Fitchburg Paper Company, utilizes knowledge of three fundamentals in designing papers and boards for specific uses. Mr. Doughty's paper will be discussed by a number of paper makers, each dealing with a certain type of paper.

To carry the arrangement of these papers a step further toward practical application A. M. Lund, general superintendent of the Mazer Paper Company will show how the scientific principles can be used to make a sheet free from curl, register trouble and other common defects.

A special and outstanding contribution to the fundamental aspects of the meeting will be the lecture by Mrs. W. K. Farr of the Boyce-Thompson Institute who will show how cellulose membranes are formed. Her colored photomicrographs are said to surpass anything hitherto shown in microscopic technology. She will show the smallest cellulose and non-cellulosic substances, made visible by polarized light and a special staining technique.

Final Reservations

Reservations must be made directly with the Ambassador Hotel, Atlantic City, N. J. Request the special TAPPI rates of $3 to $6 for single and $5 to $8 for double rooms. Be sure to ask for a railroad certificate when purchasing tickets to the meeting.

New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced that the following have been elected to membership:

Harry S. Spencer, mill manager, Howard Smith Paper Mills Co., Ltd., Beauharnois, P. Q. Mr. Spencer is a graduate of the Universities of London, England, and Toronto and was formerly a paper maker for the Interlake Tissue Mills, Merritton, Ont., and assistant superintendent, Strathmore Paper Co., West Springfield, Mass.

Earl F. Anderton, assistant control engineer, Scott Paper Company, Chester, Pa., and a 1932 graduate chemical engineer of the Massachusetts Institute of Technology.

Paul W. Bartholomew, chemical engineer, Paper Makers Chemical Corp., Kalamazoo, Mich., and a 1930 graduate chemical engineer of Purdue University. Mr. Bartholomew was formerly chemist for the Hercules Powder Company at Kenvil, N. J., and Wilmington, Del.

Robert G. Vaeth is a 1935 graduate of the New York State College of Forestry.

Joseph F. Leete, chemist and salesman, the National Sugar Refining Company of New Jersey and is a graduate of the Pennsylvania State College. In 1929 he received his Ph. D. degree from the University of Greifswald. He was formerly head of the Chemistry Department at the American University, Cairo, Egypt, and was research chemist for the Spreckels Sugar Corporation, Yonkers, N. Y., and the Applied Sugar Laboratories, New York, N. Y.

Myron Kin, student, New York State College of Forestry, Syracuse, N. Y.

Herbert R. Masters, Western sales manager, Coe Manufacturing Co., Painesville, Ohio, is a 1914 graduate mechanical engineer of the University of Kentucky. He was formerly sales engineer for the B. F. Sturtevant Co., Chicago, and the Continental Industrial Engineers, Chicago.

William D. Jorres, manager, Portland, Ore., branch of L. H. Butcher Company.

Harold R. Dalton, chemical engineer, Postal Telegraph-Cable Company, New York, N. Y., is a 1929 graduate electrical engineer of the Brooklyn Polytechnic Institute and received his Ph. D. degree from Columbia University in 1930. He was formerly engineer for the Western Union Telegraph Company.

Lewis Muscat, manager, New York Branch, R. Fuess Inc., New York, N. Y., was formerly a salesman for Sidney Shepard & Co., Buffalo, N. Y., and Hugo Meyer & Co., Germany.

F. Hayward Johnson, Jr., sulphite pulp mill engineer, Chemipulp Process Inc., Watertown, N. Y., attended McGill University. Mr. Johnson was formerly superintendent of the Niagara, Wis., sulphite mill of the Kimberly-Clark Corporation; tour boss at the Laurentide Pulp and Paper Co., Grand Mere, P. Q.; sales engineer, Manitowoc Engineering Works, Manitowoc, Wis.; and sulphite superintendent, Cherry River Pulp and Paper Company, Richwood, W. Va., and the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis.

Charles E. Roth, development technician, The Mead Corporation, Chillicothe, Ohio, is a 1932 graduate of the Ohio State University and in 1934 of the Institute of Paper Chemistry. He has been employed summers by the Aetna Paper Company, Dayton, Ohio and the Kimberly-Clark Corporation, Neenah, Wis.

Marion H. Freedman, salesman, Columbia Steel Company, Seattle, Wash.

Albert M. Kaiser, assistant superintendent, pulp mill, West Virginia Pulp and Paper Company, Tyrone, Pa., is a 1925 graduate of Pennsylvania State College.

E. F. Clark, manager, Seattle Branch, L. H. Butcher Co., Seattle, Wash., representing Edgar Brothers Company of Metuchen, N. J.

Milton J. Maguire, resident agent, Albany and Lockport, N. Y., plants of the Paper Makers Chemical Corporation, attended Rensselaer Polytechnic Institute and was formerly with the Aetna Chemical Company of Canada; Davis Chemical Corporation; Butterworth-Judson Corporation and the Bristol Company.

Luther C. H. Beighey, sulphite superintendent, Hammermill Paper Company, Erie, Pa., attended the U. S. Naval Academy, Annapolis, Md.

William R. Barber, research chemist, Crown Willamette Paper Company, Camas, Wash., is a 1930 graduate chemical engineer of Stanford University.

W. A. Kelley Goes With E. D. Jones & Sons Co.

PITTSFIELD, Mass., September 3, 1935.—W. A. Kelly who for a number of years has been Wisconsin District Manager of Reliance Electric and Manufacturing Company, Cleveland, Ohio, is now associated with E. D. Jones & Sons Company, Pittsfield, Mass., with headquarters at Milwaukee, Wis.

Improvement in Paper Box Production

Through adherence to code regulations, there has been a gradual improvement in the production basis, but there has been no outstanding progress made by the paper box industry thus far in 1935. During the first seven months there was a gain recorded for gross sales, but as the price structure has failed to strengthen, profits have been meager and in some divisions practically eliminated. There has been a decided betterment in the morale, as manufacturers seem to have succeeded in throwing off the depression psychology and are facing the future with more confidence.

The folding box division is growing rapidly, because the advantages of packaging all kinds of merchandise is becoming more generally appreciated. Especially is there a widening demand for packages designed for display and printed with advertising matter which will sell the products. This has resulted in lifting the folding paper box out of its former class, in which its use was confined merely to a container to ship an article to its destination, into the rank of a recognized medium which possesses almost limitless possibilities for increasing sales.

A definite upward trend in production is in prospect for Fall, which gives promise of continuing well through the Spring months. Industrial lines, particularly automotive, electrical supply, hardware, and refrigerator manufacturers are turning more and more to products of the paper box trade for packing, storage and convenience. With the broadening market of these industries, there seems to be a stronger demand on the part of both the retailer and consumer for a better quality box, both as to durability and appearance, according to a survey of the paper box industry, which has just been completed by Dun & Bradstreet, Inc.

Gains Small in Folding Boxes

Sales of folding paper boxes for the first six months of 1935 were approximately 102 per cent of the same period of 1934. This division of the industry started early in the year with considerable promise, but the activity which developed at that time was not sustained. During the closing months of the first half of the year, sales were slightly less than for the corresponding ones of 1934, and production schedules were curtailed.

Manufacturers now are looking forward hopefully to the demand for holiday requirements, which is expected to stimulate sales in proportions sufficient to round out the year with satisfactory gains. Early commitments were placed with some hesitancy, attributed to unsettled Federal legislation, but a substantial amount of belated business has been released, in order to provide for an anticipated improvement in Christmas requirements.

The price level has not been lifted to any degree over last year's, and is far below that of pre-depression periods. There have been no apparent changes in labor costs since the termination of the NRA, the industry continuing on the same hours and wages as under the code. While earnings have improved widely over the lows of 1932, considerable strengthening of the price structure will be necessary before a reasonable profit basis can be attained.

Progress in Set-Up Division

Sales of set-up paper boxes in the second quarter were disappointing, being approximately 12½ per cent below those of the first three months. This was attributed to the slowness in placing forward commitments, in view of the uncertainties of the NRA. Early in July sales improved, as did the receipt of orders, the month showing a marked gain over July, 1934.

Preparations for increased production are evident in the interest manufacturers are showing in the replacement of obsolete equipment. Several machinery concerns serving the set-up paper box trade will not promise deliveries of new equipment earlier than three months from the date of the order's receipt. In nearly every section of the country, manufacturers met soon after the Supreme Court's decision and agreed to maintain code wages and hour schedules.

A wide improvement in profits was revealed by the returns to a questionnaire sent out by the Commissioner of the National Paper Box Manufacturers' Association. The 122 concerns that reported sales for 1932 at $10,281,046, with a total net loss of $554,323, increased their sales to $10,822,117 in 1933, on which there was a net profit of $111,131. In 1934 the sales of these identical concerns reached $12,550,405 with a net profit of $292,581.

More Shipping Containers Used

The sales' experience of the corrugated and solid fiber shipping container division showed a rather wide variation in comparing the volume for the first half of 1935 with that of 1934 in the five geographical areas into which the country is divided for statistical purposes. This variation was more or less the normal state of affairs for this division, since it is dependent, to a large extent, on the condition of consuming industries in those areas.

Expressed in physical units, sales for the first six months of this year, compared with those for the same period in 1934, increased 25 per cent in the East, 2 per cent in the Central States, 12 per cent in the South, 7 per cent in the Middle West, and 13 per cent in the Pacific Coast. As manufacturers service so many different types of industry, the volume is sensitive to general business conditions. Because of the broadening improvement, it is expected that gains during the second half of 1935 will match these.

The price level can be expressed best in relation to the all-commodity index as published by the Bureau of Labor Statistics. The trend for containers since 1926 has followed, in general, that for all commodities. The chief variation has been that the decline in containers greatly exceeded that for all commodities during 1931 and 1932. At present, containers have recovered to only 64 per cent of the 1926 level, while the all-commodity index stands at 80 per cent.

Failure Downtrend Continued

The decline in the number of failures reported for paper box manufacturers, which has been continuous since 1932, doubtless will bring the current year's total to the smallest that has been recorded since 1931. For the seven months of 1935 only 7 concerns went into bankruptcy, as against 12 for the entire twelve months of 1934, which represented a three-year low.

The defaulted indebtedness for 1935, however, has not declined in keeping with the downtrend of failures. While the money loss through bankruptcies reached an all-time high in 1934 at $2,165,618, the bulk of this was contributed by the failure of one large manufacturer in December of that year, with involved liabilities of $1,940,450. Exclusive of that, the total was only $225,168.

In contrast, the involved liabilities of the 7 concerns that failed up to July 31, 1935, amounted to $353,234, indicating that the total this year may exceed that of 1933. Excepting 1934, the peak for liabilities was reached in 1932 at $916,444, while the low was touched in 1930 at $66,600. These same years also represented the high and low for failures, the number in 1932 being 35, and 3 in 1930.

The complete insolvency record for the paper box industry since 1928, including the first seven months of 1935, as compiled by Dun & Bradstreet, Inc., shows:

Paper Box Manufacturers

Year	Number	Liabilities
1928	8	$70,200
1929	5	69,500
1930	3	66,600
1931	6	476,401
1932	35	916,444
1933	20	508,429
1934	12	2,165,618
1935*	7	353,234

* January to July, inclusive

These statistics of commercial failures are exclusive of applications under Section 77B. From June 7, 1934, when Section 77B of the New Bankruptcy Act became effective, to August 22, 1935, application was filed under this section by one manufacturer in this industry.

Harry W. Mendum Dead

WEST SPRINGFIELD, Mass., September 9, 1935—Harry W. Mendum, 66, for 30 years superintendent of the Agawam Division of the American Writing Paper Company, Inc., died last week at his home, 104 Riverdale street, after a long illness.

For the past four years he had been superintendent of the Platner & Porter Division at Holyoke. He was born in England, coming to this town 40 years ago. He was a member of the Church of the Good Shepherd, Mt. Orthodox Lodge of Masons, and the Melha Temple Shriners.

Besides his wife, Mrs. Etha (Turner) Mendum, he leaves two daughters, Eleanor and Dorothy of West Springfield, a brother, Lieut. William Mendum of Newcastle, England, a sister also in England.

The funeral will be held at the Graham funeral parlors Thursday afternoon at 2. Burial will be in the Meeting House hill cemetery.

Paper Merchants To Hold Fall Meeting

While the National Paper Trade Association is making extensive plans for its Fall meeting in Chicago the last week in September two other groups are planning sessions in Chicago of importance to the general industry. The Folding Box Association is scheduled to meet at the Edgewater Beach Hotel on September 18 and 19 with Fred W. Hume, Room 1609, 205 W. Wacker Drive, taking care of the arrangements. The National Wall Paper Wholesalers Association will meet at the Congress Hotel on September 23 and 24 with L. M. White, of the C. C. Aller Company, Cincinnati, making the arrangements. Most of the local industry, however, has its eyes on the N.P.T.A. sessions which secretary Chamberlain has described as of extreme importance to the industry.

A. J. Naddau Goes With American Writing

HOLYOKE, Mass., September 10, 1935—Allen J. Naddau of West Haven, Conn,, has been appointed superintendent of the George C. Gill Division of the American Writing Paper Company Inc. He succeeds Dwight K. Bartlett, Jr., who recently accepted the management of the West Dudley Paper Company in Dudley, Mass.

BOSTON CONDITIONS FAVORABLE

(Continued from page 14)

Board Company, has returned from a vacation at Newfound Lakes.

The Boston paper merchants resumed their Saturday openings September 7. They had been closed during August, some during July.

The New England Paper Merchants Association will resume its bi-monthly meetings September 19, at a place yet to be determined.

The Empire Paper Products Company, Chelsea, Mass., hasc been incorporated, with a capital stock of 2,000 commonshares having no par value. Margaret E. Costello is president; Betty S. Neiman, Brookline, treasurer, and Irene Craig is the third incorporator.

Floyd H. Blackman, secretary of the D. F. Munroe Company and one of the directors of the National Paper Trade Association, is to attend the convention of that organization at the Stevens Hotel, Chicago, September 23-26.

The Plymouth Cordage Company of Kingston has filed a plea in Federal Court here asking a temporary restraining order to avoid payment of the processing tax on jute, which the company intends to make into jute bags. The company states that the taxable sum for July is only $512.90, but the tax for the year will be well over $4,000.

Active Interest in Paper in Indianapolis

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., September 9, 1935—In spite of the holiday last week the total volume of paper sales held up well and toward the end of the week there were definite evidences of the change of seasons. The demand for fine papers, which except for short periods during the summer, held up well, has increased in the last week. Books and covers are moving nicely now and prospects for a good fall are bright. Inquiries are being received in larger volume. The larger users of fine paper are not buying much ahead, there still being a feeling among consumers that prices will not hold. Since the abolition of NRA the local jobbers of fine paper have insisted on taking a fair profit and for the most part prices are being held in line. Consumers, however, feel there is sure to be a break and most of their buying is for immediate consumption. An increase in the printing business here is seen as a good indication of volume business this fall. Printers report their inquiries regarding direct by mail advertising is considerably heavier than this time last year. One local manufacturer of school books, and the company is a big one, is working three shifts and has been for some time.

With the coming of cooler weather, demand for summer specialties has dropped and the trade is expecting little more business in these lines. There was a good demand up until after Labor Day. A large number of paper buyers were in the city last week attending the State Fair and at the same time called on local jobbers.

Bag manufacturers and jobbers here report a good demand for their products. Shopping bags, bags for the cleaning trade and common papers all are moving in nice volume. Prices are reported steady. A good demand continues for tissues.

The paper box trade reports a fair demand. Textiles and makers of hardware and automobile accessories are ready customers. Local glove manufacturers also are good buyers with their business reported much heavier than last year.

Little change is seen in demand for paper stock. Local jobbers report an indifferent mill demand and low offering prices.

Annunciator Units

The Safety Factor for Plant Operation

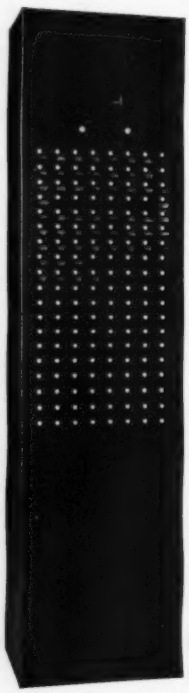
By Albert Parlett, Jr.

The control of production and plant operation has rapidly developed into a fine art. Recording meters are available for almost every purpose and the present trend is to improve means for immediate detection of abnormal or dangerous conditions. In the paper industry, where pressure, liquid levels, temperature, movement of bodies, flow, etc., are important factors in the processes employed, immediate action is demanded if damage is to be avoided.

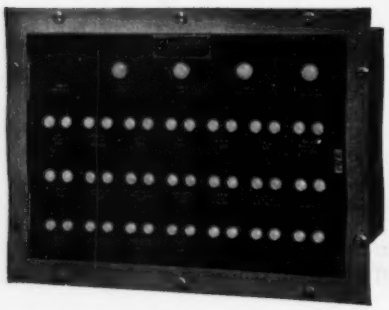
Annunciators detect abnormal conditions of plant operation quicker than the human eye or ear. Annunciators are invaluable for this purpose and especially for the supervision of automatically operated machines, or machines which, under normal conditions, require very little supervision. For instance, annunciator units have been adapted to show changes in pressures, liquid levels, speed, voltage, amperage, temperature, movement of bodies, vibration, flow and practically any other condition which should receive prompt attention at the first sign of abnormal operation.

In other words, it is a signaling or recording device which acts as an infallible check on proper operations. Signal lamps can be arranged to operate from continuous contacts such as those occurring as a result of a rising liquid level or temperature change, or they can operate from momentary contact such as might occur in the case of a circuit breaker or other transient phenomena.

In designing these units, practically any desired operation of indicating lights may be worked such as a lighted condition for normal operation, a dark indication for abnormal operation, or vice-versa. Two or more lights may be assigned to indicate two or more conditions and a third light to indicate change from one condition to another. The lights may remain burning so long as the faulty condition exists or may be so designed that they can be extinguished and caused to re-appear by a repetition of the observed condition. Various other circuit arrangements may be worked out to best fill the individual needs of the purchaser's plant.



Annunciators may be operated from photo-cells and will monitor the operation of other equipment which is photo-cell cntrolled. Automatic counters may also be furnished to indicate the number of times that any particular lamp is lighted, thus providing an authentic record of the frequency with which the observed condition occurs within a given period. Also, alarm bells may be made to ring continuously so long as the condition prevails, and may be silenced manually or automatically until again sounded by a repetition, reversal, or still another change in conditions under the supervision of the annunciator system. In other words, the possibilities of employing annunciators in industrial plants are limited only to the electrical engineers' ingenuity.



Check on Heat Conditions

This equipment is particularly valuable as a check on heat conditions within the plant which may cause fire or be otherwise injurious to property or product. It has been used as a fire-alarm indicator with utmost success in power plants where cable vaults, wire ducts, and other out-of-the-way locations exist which do not normally come within the tour of a fire-guard or other attendant. And, obviously such equipment is invaluable in any plant using kilns or other heat treating appliances. Generators, motors, conveyors, pulverizers, grinders, blowers, pumps, scales, compressors, elevators, or in fact any apparatus which forms an automatically operated link from one process to another, or a unit which by itself must be closely regulated for the prevention of damage to the product or danger to employees or premises, are all capable of automatic supervision by an annunciator method.

In the selection of annunciator equipment, the most important factor is dependability. For this reason, the Kellogg Switchboard and Supply Company of Chicago is a recognized source of supply. Kellogg units are generally assembled in steel cabinets of a type to match other existing panels in the plant. They may be self-contained as illustrated or may be designed to fit into existing gauge or control boards. Complete accessibility is featured in all types, and each unit is made as nearly fire-proof and dust-proof as possible.

The Kellogg Company, through an intensive study of the applications of annunciator equipment, is in a position to make recommendations based on the practices adopted by leaders in the power, electrical and numerous other industries. Many circuit variations are available to meet practically any operating condition.

Manual, Automatic or Remote Lamp-Reset Fixtures

Provisions for operation on either continuous or momentary alarm contacts are obtainable with manual, automatic, or remote lamp-reset features. Audible alarms of any size or voltage may be had with any of the reset features. Alarm fusing, ground indication, and instantaneous lamp check, make it practically impossible for any part of a plant to fail without giving immediate warning. Holding lamps and operation counters give the attendant a complete picture of all the equipment and operation under his supervision. Each circuit, as it terminates on the annunciator panel, is clearly marked with a name plate, engraved to designate the machine or apparatus with which that circuit is associated.

Kellogg engineers also furnish annunciator panels in compact turret form when desired, and offer a comprehensive engineering service on the type or size of equipment best suited for any given situation.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Excello, Ohio.—The Harding-Jones Paper Company, manufacturer of writing papers, etc., has approved plans for improvements in mill, including installation of new mechanical drying machinery and other equipment. Work will be placed under way at once. Cost estimated close to $40,000, including equipment.

Hoboken, N. J.—Shoup-Owens, Inc., 1100 Adams street, manufacturer of paper boxes and containers, has arranged for construction of new one-story addition to plant, to replace in part several small units and provide increased production facilities. The factory occupies a large tract of land at Adams, Jefferson and Eleventh streets, and long-time renewal lease has been made by company with the Eleven Hundred Adams Street Corporation, which recently acquired the property. Work on new unit will be placed under way soon. It is reported to cost over $25,000, with equipment.

Everett, Wash.—The Weyerhaeuser Timber Company, Pulp Division, Tacoma Building, Tacoma, has work under way on new local pulp mill in the Bayside district, where large tract of land was recently acquired. Plant will consist of several units and will be developed for large capacity. City Council has rescinded bids recently called for construction of a 33-inch and 16-inch steel pipe line to furnish water for the mill, estimated to cost about $175,000, owing to questionable legality of bond issue for such purpose, and project will be placed before voters for approval. A temporary service line will be built for the water supply until permanent pipe line can be built. Immediate line will cost about $45,000. It is proposed to have the pulp mill ready for service in the near future. O. C. Schoenwerk is company engineer in charge.

Philadelphia, Pa.—The American Paper Products, Inc., 2113 East Rush street, has filed plans for new one-story addition to plant, and will proceed with work at once.. No estimate of cost has been announced.

Wilmington, Del.—The Rockland Paper Company, Inc., recently organized to take over and operate the former Rockland Mills of the Jessup & Moore Paper Company, has placed a portion of the plant in service, giving employment to about 60 men, or about one-third of estimated full working force. Company is completing a modernization program at the plant, including the electrification of all equipment and installation of new machinery. Initial production will be given over to the manufacture of transparent wrapping papers for food products and other specialties. It is expected to have the entire plant in service in October, when large output will be developed. J. T. Tong, formerly connected with the Jessup & Moore company, will be superintendent at the mill. Dr. Charles A. Ernst, Ridley Park, Pa., is president of new company.

Waukegan, Ill.—Johns-Manville Corporation, 22 East 40th street, New York, N. Y., manufacturer of insulation board products, asbestos paper goods, etc., has begun expansion program at mill at Waukegan, recently referred to in these columns, comprising two new additions, each one-story, 50 x 650 feet and 100 x 200 feet, respectively. Large increase in capacity will be carried out. Entire project will cost in excess of $175,000, including equipment. Peterson & Weeks, Inc., 28 North Genesee street, Waukegan, is general building contractor.

Philadelphia, Pa.—The Minnesota Mining and Manufacturing Company, 791 Forest street, St. Paul, Minn., manufacturer of sandpaper and other abrasive paper stocks, has awarded contract to the Cleveland Wrecking Company, Philadelphia, for dismantling and liquidation of the former plant of the Baeder-Adamson Paper Mills, Richmond street and Allegheny avenue, Philadelphia, acquired a number of months ago and now consolidated with the first noted company. The plant site totals about 24 acres, improved with a number of buildings used for many years for the manufacture of abrasive paper goods of various kinds. Operations of the Baeder-Adamson unit have been removed to St. Paul.

Prince Rupert, B. C.—The Mutual Pulp and Paper Mills, Ltd., recently organized by interests represented by F. L. Buckley, 1030 Hamilton street, Vancouver, B. C., has plans maturing for proposed new pulp and paper mill in the Seal Cove district, Prince Rupert, where tract of land has been selected, as lately noted in these columns. New plant will comprise several large units, with power house, pumping station, machine shop and other mechanical departments. It will be equipped for an initial output of 250 tons of bleached sulphite pulp per day, and is estimated to cost close to $5,000,000, with machinery. New plant is expected to be ready for service in 1936. Arrangements have been made with the Northern British Columbia Power Company for power supply for service at the mill, and transmission line for this purpose will be constructed to mill site, where a power substation will be located. The Mutual company is also planning extensive development of pulpwood properties at Queen Charlotte Island, as well as in the Skeena River district, including the construction of sawmills and other lumbering facilities.

Mexico, D. F.—The Bureau of National Economy is arranging for the early organization of a Government-controlled paper manufacturing company, in accordance with recent presidential decree authorizing the formation of such an interest as a branch of the industrial nationalization program, now in progress. It is proposed to construct and operate a mill as a feature of the project, to be given over to the production of different character of paper stocks. A site will be selected at early date. The mill will consist of several large producing units and will represent a large investment. An appropriation for this purpose is being arranged. The new company will also

specialize in the importation of paper products from other countries, notably Sweden, Norway and Finland, including newsprint and other stocks. Extensive storage and distributing facilities will be established for this branch of operation.

Rome, Italy—The Italian Paper and Printing Guild has authorized the organization of a new national company, to construct and operate a plant for the production of cellulose and paper goods of various kinds. It is proposed to select a site for the mill at early date, to include a large experimental station to determine sources of native raw materials to be used for manufacture. Plant will consist of a number of units, equipped for large capacity. An appropriation will be arranged soon. It is understood that the project will include a cellulose and paper converting division.

New Companies

Detroit, Mich.—The United Paper Products Corporation, 8545 West Jefferson avenue, has been organized with capital of 2500 shares of stock, no par value, to deal in paper products of various kinds. Bert Safer is one of the incorporators.

Brooklyn, N. Y.—The Vym Paper Box Company, Inc., represented by Herman E. Hoberman, 16 Court street, manufacturer of paper boxes and containers, has arranged for change in capital from $20,000 to $10,000.

Cambridge, Mass.—Ralph F. Bass, Inc., has been chartered with capital of $25,000, to manufacture and deal in paper boxes, paper bags and kindred products. Ralph F. Bass, 169 Second street, Cambridge, is president and treasurer.

Whiting-Watson Nuptials

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., September 10, 1935—A wedding of interest in paper making circles took place Saturday night when Sidney E. Whiting, Jr., son of Sidney E. Whiting, for many years purchasing agent for the Whiting Paper Company, and Miss Marion Ramage Watson, daughter of Mr. and Mrs. George C. Watson and granddaughter of James Ramage, founder of the Franklin Paper Company and interested in other paper making ventures were wedded at the Second Congregational church. Mr. Whiting is connected with the National Blank Book Company and is a member of the Holyoke Board of Aldermen.

Paper Production in the Netherlands

Total paper production in the Netherlands was somewhat higher in 1934 than in 1933 according to figures released by the Central Bureau of Statistics at the Hague. This small increase, it is stated, was due to the rise in newsprint production, inasmuch as the output of wood free printing and writing papers and wrapping papers, which make up the bulk of the remaining production, showed a decline.

Total production of paper and paper products in the Netherlands dropped from 24,538,000 guilders in 1934 as compared with 25,879,000 guilders in 1933, a decline of 5 per cent.

Excelsior Paper Stock Incorporates

VANCOUVER, B. C., September 9, 1935—The Excelsior Paper Stock Ltd. was incorporated at Victoria, B. C., recently with capitalization at $10,000. It will engage in the production of wood and paper excelsior and paper products. Registered offices are at its own address, 1531 Main street, Vancouver, B. C.

New TAPPI Committee Chairmen

During the current year a number of new appointments have been made in the divisional organization of the Technical Association of the Pulp and Paper Industry.

Paul Koenig of P. H. Glatfelter Company, Spring Grove, Pa., has been appointed vice chairman of the Management Division, succeeding H. L. Joachim of the Longview Fibre Company.

John Traquair of the Mead Corporation has been appointed chairman of the Raw Materials Division succeeding John L. Parsons of Hammermill Paper Company.

James A. Lee of Chemical and Metallurgical Engineering has been appointed chairman of the Non-Fibrous Raw Materials Company suceeding C. E. Peterson of the Riegel Paper Corporation, Riegelsville, N. J.

In the Operating Division George D. Bearce of the Maine Seaboard Paper Company has been appointed chairman of the Committee on the Preparation of Fibrous Materials, to succeed F. W. Motschman of the International Paper Company.

W. H. Swanson of the Kimberly-Clark Corporation has been appointed chairman of the Acid Pulping Committee succeeding P. A. Paulson of Appleton, Wis.

G. Lamont Bidwell, Jr., of the Riegel Paper Corporation has been appointed chairman of the Stuff Preparation Committee succeeding D. Manson Sutherland of Trenton, N. J.

V. F. Waters of the Wrenn Paper Company, Middletown, Ohio, has been appointed chairman of the Paper Finishing Committee succeeding Leopold Werdern of the Peninsular Paper Company.

In the Research and Development Division R. H. Doughty of the Fitchburg Paper company has been appointed chairman of the Paper Use Requirements Committee succeeding P. K. Baird of the Forest Products Laboratory.

In the Testing Division C. E. Peterson of the Riegel Paper Corporation has been appointed chairman of the Non-Fibrous Materials Testing Committee, succeeding W. A. Chapman of Skinner & Sherman, Inc.

Erie Corrugated Box Co. Starts

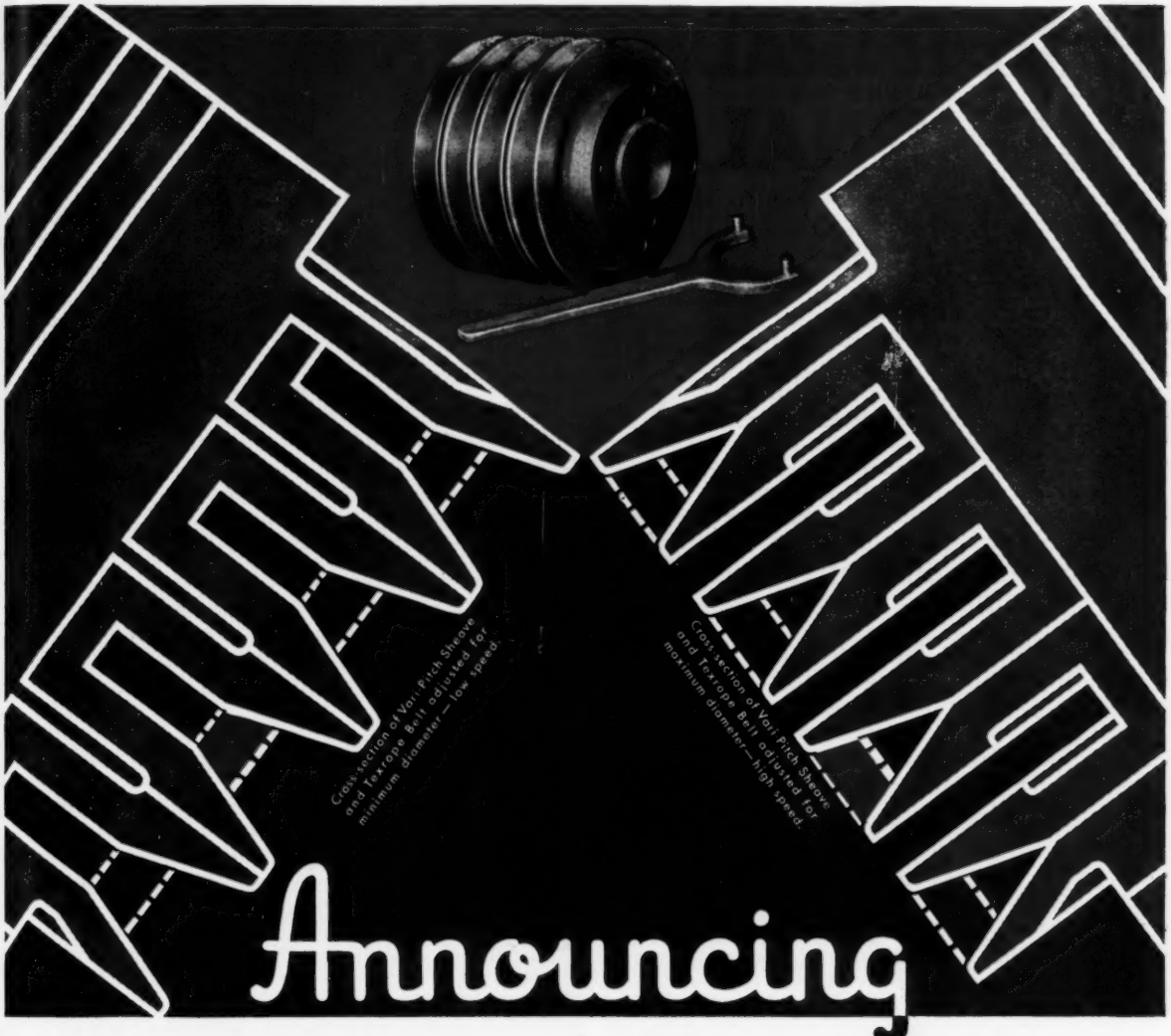
ERIE, Pa., September 9, 1935.—Production in the Erie plant of the Ashtabula Corrugated Box Company at E. 10th and Bacon Streets will begin within the next few days, officials at the Ashtabula headquarters of the plant said Thursday. Buckley Hubbard of Ashtabula will be manager of the plant.

Thirty-five persons will be employed in the new industry which will be known as the Erie Corrugated Box Company, Ashtabula officials announced. The insulation department of the Ashtabula factory is being moved here. A number of Ashtabula employes of the company will be moved to the new plant.

In addition to producing insulating material, the plant will manufacture a line of boxes similar to those made in Ashtabula.

Kennebec Pulp & Paper Co. To Open Oct. 5

AUGUSTA, Maine, September 9, 1935.—The Kennebec Pulp and Paper Company, headed by A. Mazer of New York City will open October 5 with an estimated crew of 160 to 170 men which will be increased after the first of the year. One thousand cords of pulpwood have been delivered and piled ready to be converted into wrapping paper, toilet tissue, paper towels, napkins and other tissue products which will be produced by the plant.


Cross-section of Vari-Pitch Sheave and Texrope Belt adjusted for minimum diameter—low speed.
Cross-section of Vari-Pitch Sheave and Texrope Belt adjusted for maximum diameter—high speed.
Announcing

THE *New* VARI-PITCH TEXROPE SHEAVE

The Allis-Chalmers Mfg. Co. now offers a most important new development in power transmission — the Vari-Pitch Texrope Sheave. ● In this new sheave, by a simple adjustment which takes but a few moments, the pitch can be altered so as to give a variation in speed of from 15 to 25 per cent per sheave; if both sheaves are of this type, the range of variation will be doubled. ● The new Vari-Pitch Sheave permits you to experiment with different speeds to ascertain at just what speed your machinery shows the greatest efficiency; it permits you to take advantage of new higher speed cutting tools; it permits you to make different products, some of which require higher speeds and some lower —and do all this without dismantling and buying new drives, but simply by taking a few moments to make the desired adjustment. ● Vari-Speed Sheaves are made in two types, manual and automatic. The manual type is recommended for applications that require occasional change of speed. For applications that require frequent changes the entirely automatic type is recommended in which speed can be instantly varied to the full range while the drive is in operation.

TEXROPE DRIVES

ORIGINATED BY ALLIS-CHALMERS

ALLIS-CHALMERS MANUFACTURING COMPANY · MILWAUKEE, WISCONSIN

PAPER TRADE JOURNAL
ESTABLISHED 1872

15 West 47th St., New York, N. Y.

Henry J. Berger
Editor

Ronald G. Macdonald
Editor Technical Section

Herbert J. Laughton
Associate Editor

Thomas J. Burke, C. A.
Editor Cost Section

Lynne M. Lamm
Washington Correspondent

Price, Per Copy, 10 Cents
United States, Per Annum, $4.00
Canada, including tax, $7.50; Foreign Countries in Postal Union, $6.00

Member Audit Bureau of Circulations

Vol. CI New York, September 12, 1935 No. 11

BUSINESS WELCOMES BREATHING SPELL ASSURED BY PRESIDENT

Business and industry has for many months past been extremely wearied by the apparently endless legislation enacted and agitated by the President and the lawmakers at Washington. It was, therefore, decidedly good news when the President assured the country from his residence at Hyde Park late last week that his reform program had been substantially completed and that for the time being at least, there was to be a breathing spell from such legislation.

This assurance was given in response to a letter from Mr. Roy W. Howard, head of a chain of prominent newspapers in the leading cities of the country, of which the following is a brief extract:

"Throughout the country many business men who once gave you sincere support are now not merely hostile, they are frightened. Many of these are men whose patriotism and sense of public service will compete with that of any men in political life."

In reply to this letter Mr. Roosevelt said in part: "This administration came into power pledged to a very considerable legislative program. It found the condition of the country such as to require drastic and far-reaching action. Duty and necessity required us to move on a broad front for more than two years. It seemed to the Congress and to me better to achieve these objectives as expeditiously as possible in order that not only business but the public generally might know those modifications in the conditions and rules of economic enterprise which were involved in our program. This basic program, however, has now reached substantial completion and the 'breathing spell' of which you speak is here—very decidedly so."

Just how anxiously the country has been awaiting some such assurance was demonstrated by the fact that stocks on the various financial exchanges rose buoyantly throughout Friday immediately after the good news was released. Other handicaps to business still remain, but it is good to know that "bad news from Washington" is to cease or to be moderated for the time being and that more attention presumably is to be paid to getting started the wheels of industry which have been revolving at reduced speed for so many weary months. It is well to remember also, judging from past experiences, that this country is wonderfully resilient and with other favorable factors developing just now that this impetus to business and industry may mean that we shall soon be farther along on the road to recovery than many people are inclined to think.

Bearing out the foregoing impression is an optimistic statement issued on Monday of this week by the American Federation of Labor which said that business was showing greater vitality than in any upswing since 1933 and that "the last four months of 1935 may well bring the highest level of industrial operations and earnings for any similar period since 1930."

"The present business upswing," the federation said, "is the healthiest thus far; it is the first not due to government spending or currency action; the first which seems due chiefly to inherent economic strength. Dividend payments in August exceeded last year by $11,000,000, or 4 per cent; the steel industry is out of the red for the first time since 1930. With these signs of increased industrial earnings, much depends upon the workers making a new drive now for higher incomes."

Buying power of the workers, lifted to higher levels in 1934 by the NRA, and the income of farmers, raised by the AAA, the report said, "at last have made themselves felt in sufficient degree to stimulate production."

The federation stated that orders for automobiles in the first half of 1935 were 75 per cent above last year and that, "as a result of increased buying and production and growing confidence, industry is beginning to order new machinery. Machine-tool orders in the first half of 1935 were 47 per cent above last year."

"All these lines of activity," the survey continued, "have continued through July and August. The automobile industry is spending $100,000,000 on production equipment; the steel industry, $130,000,000, it is estimated. This new life in the heavy industries should mean more jobs where unemployment has been particularly severe."

The federation said that the trend had started strongly upward after a five months' waiting period, and that from the week of July 6 to August 24 *The New York Times* index recorded a gain of 8 per cent to 88 per cent of normal.

"This striking gain," it said, "was made in the short space of seven weeks; it leaves business well over halfway back to normal."

SCANDINAVIAN PULP EXPORTS

Exports of wood pulp from the Scandinavian countries and Finland during the first six months of this year show a slight decline in volume compared with the corresponding period of last year, according to unofficial reports received by the Department of Commerce.

Shipments of ground wood from Finland were greater

by 18 per cent this year, but this gain was insufficient to offset losses of 18 per cent in Swedish and 32 per cent in Norwegian shipments during the same period.

Sulphite exports from the three countries were nearly on a level with 1934, but this was entirely due to increased amounts of bleached sulphite being cleared from Swedish ports. Exports of unbleached sulphite from Sweden declined 20 per cent, and exports from Norway of both bleached and unbleached were less when compared with the first half of 1934.

Statistics published by the Finnish government do not make a distinction between bleached and unbleached sulphite shipments. The combined shipments, however, dropped off 2,432 tons compared with last year. Exports of sulphate pulp, in contrast with the other two classes mentioned, were slightly larger this year, shipments from all three countries showing a slight rise.

Cornell Foresters Inspect Paper Mills

GLENS FALLS, N. Y., September 9, 1935—A large group of forestry students from Cornell University spent the past week on an inspection tour of paper mills in this section. The students were in charge of Prof. A. B. Recknagel and J. D. Pond, instructors of forestry at the university. The foresters are spending a month at their experimental camp near Newcomb which was presented to Cornell University by Finch, Pruyn & Co., in 1933. The group comprise the last undergraduate class in forestry which will be graduated from Cornell, the undergraduate work in forestry having been transferred to the New York State College of Forestry at Syracuse. Graduate work in forestry will be continued at Cornell. During their visit here the group inspected the ground wood plant of Finch, Pruyn & Co., and later went to Mechanicville to inspect the mills of the West Virginia Pulp and Paper Company. Their work at the Newcomb camp consists of intensive timber estimating on a neighborhood tract of 1,000 acres; growth studies in spruce and pine; studies of logging methods on the same lands and on the Whitney tract at Tupper Lake; inspection of sample plots to measure the effect of girding poor hardwoods to release young softwood growth on holdings of Finch, Pruyn & Co.

Weston Paper & Mfg. Co. Gets Rebate

[FROM OUR REGULAR CORRESPONDENT]

DAYTON, Ohio, September 9, 1935—Word was received here the past week from Washington that an over assessment of $25,569 in favor of the Weston Paper and Manufacturing Company of this city, for interest for the year 1920, was announced by the Bureau of Internal Revenue.

The company's plant is located in the east central manufacturing district. Edward B. Weston, founder and president, died two years ago, but no changes were made in the conduct of the business. The Weston interests maintain mills in St. Marys, Ohio, and in Indiana.

Italy Puts Tax on Pulpwood

WASHINGTON, D. C., September 9, 1935.—The Italian government has established a sales tax on pulpwood imported for the manufacture of chemical pulp, according to a Ministerial Decree published in the official gazette of July 12. The rate established is 0.15 lire per quintal and is to be effective for the period July 1 to December 31, 1935.

Weekly Production Ratio Report

Reports to the American Paper and Pulp Association show the following Over-All Production Ratios for the designated periods.

	Reporting Mills		*Total*
	Number	*Capacity*	*Production-Ratio*
September 1934	292-299	.....	59.4%
October 1934	297-394	.....	64.7%
November 1934	385-399	.....	61.7%
December 1934 (a)	396-404	.....	62.1%
January 1935	397-411	.....	65.8%
February 1935	407-409	.....	70.0%
March 1935	406-408	.....	70.5%
April 1935	405-407	.....	70.0%
May 1935	379-407	.....	69.4%
June 1935	355-374	.....	72.3%
July 1935 (b)	355-356	.....	67.8%
*Week ending August 3, 1935	351	146,895	70.7%
*Week ending August 10, 1935	350	144,704	69.6%
*Week ending August 17, 1935	342	146,075	70.8%
*Week ending August 24, 1935	338	142,717	70.6%
*Week ending August 31, 1935	224	92,343	69.4%

Statistics showing the number of mills reporting by ratio groups are given below:

NUMBER OF MILLS REPORTING

	Week Ending				
Ratio Limits	August 3 1935	August 10 1935	August 17 1935	August 24 1935	August 31 1935
0% to 50%	132	115	109	108	68
51% to 100%	219	235	233	230	156

*Subject to revision.

According to reports from the National Paperboard Association per cents of operation, based on "Inch-Hours" were as follows:

	September	1934—62%	June	1935—65%
	October	1934—63%	July	1935—59%
	November	1934—56%		
(a)	December	1934—53%	August 3,	1935—66%
	January	1935—61%	August 10,	1935—64%
	February	1935—67%	August 17,	1935—65%
	March	1935—67%	August 24,	1935—67%
	April	1935—61%	August 31,	1935—69%
	May	1935—61%		

(a) Capacity and percentage data exclude December 25, 1934.
(b) Capacity and percentage data exclude July 4, 1935.

Revised statistics covering delinquent mill returns will be shown in later reports.

Now McCarthy & Lasher, Inc.

Effective September 9, 1935, the firm name of J. F. McCarthy, Inc., will be changed to McCarthy & Lasher, Incorporated. The telephone number will be WIsconsin 7-7634. The address will remain the same, 71 West 35th street, New York City.

James F. McCarthy, former president of the old company will again head the new company and Robert R. Lasher will be vice-president.

Mr. McCarthy, has been connected with the printing and paper business for a long number of years. The old concern bearing his name was founded by him a comparatively few years ago and has been increasingly successful because of the superior type of service rendered its customers.

Mr. Lasher has been actively engaged in the paper industry in New York City for the past thirty years. He was vice-president of the old firm of Lasher and Lathrop, Inc., for many years and for the past two and a half years was a director and officer of Henry Lindemeyr & Sons.

The new firm expects to broaden its activities in the publication and book paper field as well as to engage in handling of paper specialties.

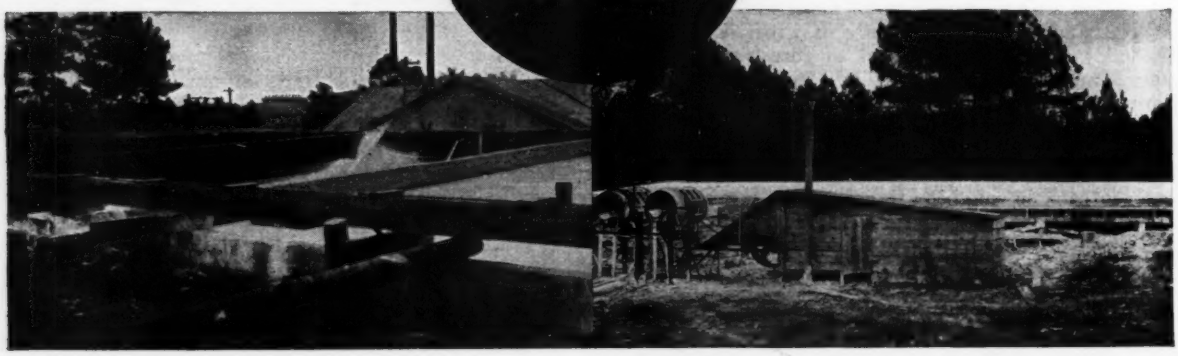
Cigarette Paper Exports Lower

WASHINGTON, D. C., September 9, 1935.—Exports of cigarette paper from the Nantes consulare district to the United States during the months of May and June totaled 1,750,000 pounds, as compared with 2,000,000 pounds during the corresponding months in 1934, according to a recent report from Vice Consul Jack E. Cocke, Nantes.

China Clay

Domestic Clays
Bulk or Paper Bags

English China Clays
Bulk, Bags, Casks



From mines in North Carolina and Georgia, we can give you Air-Floated, Water Washed and Coating Clays, produced in a modern way. Our Clays are low in grit content and have that bright white color that can only be produced from the finest crude Clays obtainable.

We also have a complete line of English Coating and Filler Clays for all needs. Regular chartered service to the principal Atlantic ports.

American Cyanamid & Chemical Corporation

30 ROCKEFELLER PLAZA, NEW YORK, N. Y.

Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

A Study of Penetration of Papers by Various Oils and Varnishes*

By Gerard A. Albert[1]

Abstract

Phenolic resin varnish penetration into absorbent papers is linearly related to the penetration of these papers by castor oil, sperm oil and some motor oils.

The penetrations of castor oil, sperm oil and certain motor oils into absorbent papers are linearly related.

Penetration of absorbent paper with a given phenolic resin varnish is inversely proportional to the viscosity of the varnish if diluted with alcohol.

Penetration of paper with different type oils or with different kinds of phenolic resin varnish is not related to their respective viscosities.

Gurley air resistance and the quotient, seconds for oil penetration divided by the paper thickness squared, are linearly related for the papers studied having a Gurley air resistance between 10 and 150 seconds.

Water absorption of absorbent papers is neither related to castor oil penetration nor to phenolic resin varnish penetration.

In many processes of manufacture in which paper is impregnated with liquids, such as phenolic resin varnishes, waxes, oils, etc., much concern is given to securing complete impregnation. It is quite important that papers used for this purpose should be such that they will properly take up the various impregnating liquids. This means that any paper to be so used should be first subjected to a test which will accurately determine the penetration characteristics of the paper with any particular liquid. This test should not only show whether or not the paper in question can be impregnated with the particular liquid but should also give an indication of how much time is required to do so. In some continuous processes the time element is very important because the paper is in contact with the liquid for only brief intervals.

The work reported in this article was undertaken to develop a satisfactory test for determining the penetration characteristics of paper with phenolic resin varnishes, so that proper papers could be selected for use in the manufacture of Phenolite (trade name for National Vulcanized Fibre Company's laminated phenolic products).

* Presented at meeting of Sub-Committee VIII—Insulating Papers and Fabrics, Committee D-9 A.S.T.M., New York, N. Y., March 14, 1935.

[1] Research Engineer, The Phenolite Co., Div. of National Vulcanized Fibre Co., Yorklyn, Del.

Discussion of Method

The apparatus used in this study to determine the penetration characteristics of papers with phenolic resin varnishes, oils, or other liquids was the Westinghouse type (*1*) such as used by some paper manufacturers of absorbent papers for phenolic laminated work since 1926. It consists of but two parts, an upper saucer like portion and a base into which the upper part is screwed. A hole 5/8 inches in diameter is centered in both the upper concave part and the base and when assembled these holes are in alignment. The penetrometer when assembled measures 2 inches in diameter and about 3/4 inches in height. The penetrometer with tripod and mirror is shown in Fig. 1.

The procedure consists of placing the paper specimen, cut about one inch square, in the base of the penetrometer over the 5/8 inch hole and then clamping it in place by

FIG. 1
Apparatus for penetration test.

screwing on the saucer like top. Because the holes in the top and base are in alignment the clamped paper specimen is exposed only over the hole. The impregnating liquid is poured into the top concave space of the penetrometer to about ½ inch depth, coming in contact with the paper specimen exposed through the ⅝ inch hole. Special care is taken to maintain all liquids at 25 deg. C. during the test. The time expressed in seconds from the instant the liquid first touches the paper until the entire surface of the under side of the paper specimen shows complete penetration, is carefully noted with the aid of a stop watch. This observation is readily made by the use of an inverted mirror.

The time in seconds required for the liquid to completely penetrate through the paper is taken as the criterion of the penetration characteristics of the paper. Cobb (*2*) on the other hand uses the weight of liquid penetrated into the paper specimen in a definite time as a similar criterion.

When phenolic resin varnishes were used as the penetrating liquid, it was found that even the softest papers could not be penetrated until the varnish was diluted with a solvent to a surprisingly low viscosity; whereas much higher viscosity motor oils penetrated without any undue difficulty. This is due to the peculiar physical make up of phenolic resin varnishes. They are composed fundamentally of physical mixtures of high viscosity resins dissolved in some suitable solvent such as alcohol to viscosities not exceeding seven poises. Hence, when a liquid of this type is poured upon the paper specimen clamped in the penetrometer the solvent readily evaporates from the varnish down through the porous paper, leaving a high viscosity layer in contact with the paper which retards and in some cases prevents penetration. To overcome this, the penetrometer was equipped with a small glass plate cut one inch square on which the paper was clamped in the penetrometer during the test. This glass prevented any evaporation of solvent and hence the study of phenolic resin varnish penetration into paper could be made.

The presence of the glass plate in the penetrometer did not effect the time of penetration of non-volatile liquids as oils. That is, the time of penetration with or without the glass plate was the same.

Varnish vs. Oil Penetration

Because phenolic resin varnishes are difficult to work with and extremely unstable in their physical properties, they are not suitable as test liquids in the above method.

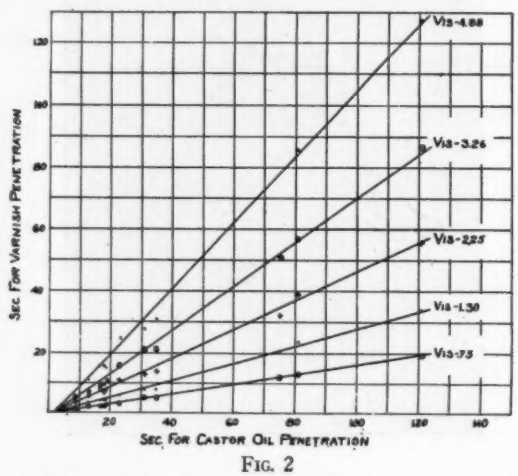


FIG. 2

Comparison between phenolic resin varnish and castor oil penetration into absorbent papers.

An effort was made to find some stable liquid such as an oil, for use in this test, whose penetrating properties would be definitely related to varnish penetration. This work consisted of first studying the penetrating properties of many kinds of phenolic resin varnishes at various dilutions into various types of papers and then to find an oil whose penetrating properties into the same papers would be related to those of varnish. With such an oil it would be only necessary to determine the time for it to penetrate the paper, and this time in seconds would then be a criterion of whether the paper in question is suited for impregnation with a particular varnish.

Castor oil of the ordinary commercial grade was found suitable for the above purpose. Its viscosity at 25 deg. C. is about equal to that of undiluted phenolic resin varnishes namely, seven poises. In Fig. 2 is shown the linear relationship between castor oil and varnish penetration using varnish B at any dilution for many types of papers. This plot displays the fact that castor oil penetration is directly proportional to varnish penetration, meaning that the castor oil penetration value is a criterion of the ability of a paper to be impregnated with a phenolic resin varnish. The papers used in this study were all different from each other in some respect and cover a wide range of absorbent papers. The types of papers studied, together with some of their physical properties, are listed in Table I.

TABLE I

TYPE, WEIGHT, DENSITY AND THICKNESS OF THE PAPERS STUDIED

Paper No.	Thickness In.	Basis Wt. Lbs. 24x36—500	Mil. Wt. Per Ream 24x36—500	Type of Paper
R-1	.0037	40.0	10.8	Rag
R-2	.0049	40.0	8.2	Rag
R-5	.0072	70.0	9.7	Rag
R-6	.0103	74.0	7.0	Rag
R-7	.0107	76.0	6.9	Rag
R-9	.0073	74.5	10.3	Rag
R-14	.0067	78.0	8.2	Rag
R-15	.0063	51.3	8.5	Rag
R-16	.0096	78.0	8.1	Rag
R-17	.0090	73.5	8.1	Linter
R-111	.0050	40.0	8.0	Rag
R-131	.0053	51.0	9.6	Rag
A-2	.0049	53.0	10.8	Unbleached alpha
A-3	.0114	77.5	6.8	Bleached alpha
A-4	.0034	33.2	9.8	Unbleached alpha
A-5	.0073	51.4	7.0	Bleached alpha
A-6	.0118	86.4	7.3	Bleached alpha
A-7	.0052	52.4	10.1	Unbleached alpha
A-9	.0066	72.0	10.9	Bleached alpha
A-10	.0069	70.5	9.9	Bleached alpha
K-1	.0106	74.0	7.0	Kraft
K-2	.0034	31.8	9.4	Kraft
K-6	.0041	52.5	12.8	Kraft
K-22	.0043	50.5	11.7	Kraft
K-31	.0073	75.5	10.3	Kraft
K-51	.0061	63.3	10.4	Kraft
K-61	.0063	62.6	9.9	Kraft
K-71	.0111	73.5	6.6	Kraft

The physical significance of this family of curves can best be illustrated by replotting the data of a few papers to obtain Fig. 3. This plot shows that for a given varnish the time in seconds for varnish penetration is directly proportional to the viscosity in poises of the diluted varnish. This relationship between varnish penetration and its diluted viscosity was found to exist for all seven varnishes studied.

The phenomenon of penetration of liquids into paper seems to follow the law of Washburn (*3*).

$$V = n \cos \Theta \frac{R}{2T^2} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

where V = coefficient of viscosity in poises
n = surface tension in dynes or cm.
$\cos \Theta$ = cosine of angle of contact
R = effective pore radius of paper in cm.
T = paper thickness in cm.
S = time of penetration in seconds

For any one paper, R and T are constant and if the product n cos θ is a constant then the seconds for penetration (S) is proportional to the viscosity of the impregnat-

ing liquid (V). Since a linear relation does exist between the time of penetration and viscosity of a given diluted varnish (Fig. 3) for any one paper, the product n cos θ must be a constant at all dilutions. This seems reasonable because the "as received" varnish which consists of thick resin diluted with approximately an equal weight of commercial denatured ethyl alcohol is further diluted to lower viscosities with alcohol and hence the prevailing liquid, alcohol, is not changed. The product n cos θ would then be changed only slightly for the various dilutions.

TABLE II

PENETRATION DATA USING A PHENOLIC RESIN VARNISH DILUTED TO VARIOUS VISCOSITIES

	Seconds for Penetration					
Paper	Castor Oil Vis.	Varnish Undiluted Vis.	Varnish Diluted Vis.	Varnish Diluted Vis.	Varnish Diluted Vis.	Varnish Diluted Vis.
No.	6.82	4.88	3.26	2.25	1.30	.73
R-1	23	25	16	11	6	3
R-2	13	11	7	6	3	2
R-5	81	86	57	39	24	13
A-2	121	128	87	56	34	19
A-3	19	15	11	8	4	3
A-4	31	28	21	13	8	5
A-5	9	6	5	4	2	1
A-6	18	16	10	7	4	2
A-7	75	75	51	32	21	12
K-1	17	16	9	8	4	2
K-2	35	31	21	14	8	5

TABLE III

PENETRATION DATA USING VARIOUS UNDILUTED PHENOLIC RESIN VARNISHES

		Seconds for Penetration				
Varnish No.	Stormer Viscosity Poises	Rag Paper R-16	Rag Paper R-17	Alpha Paper A-4	Kraft Paper K-1	Kraft Paper K-2
A	2.80	7	7	20	10	20
B	3.03	8	8	20	10	18
C	3.40	11	10	27	15	27
D	5.38	15	14	40	19	34
E	5.52	17	18	48	23	49
F	6.52	19	19	57	31	49
G	6.74	17	15	41	23	59

In Fig. 4 is shown a plot between the seconds for penetration of various kinds of phenolic resin varnishes as a function of their "as received" viscosities. These curves are discontinuous for any one paper, showing that the product, n cos θ, is not the same for all these varnishes. This, too, is reasonable because to these varnishes are added various kinds of plasticizers and lubricants which would necessarily cause the product, n cos θ, to be different.

The same papers that were penetrated with varnish according to the foregoing were penetrated with various type oils. The oils used were sperm oil and various commercial oils. The seconds for penetration using these oils are shown plotted in Fig. 5 as a function of seconds for penetration using castor oil. These curves are linear showing that castor oil penetration into paper is proportional to other oil penetration. Because of this fact and that illustrated in Fig. 2, namely the proportionality between castor oil and phenolic resin varnish penetration, it

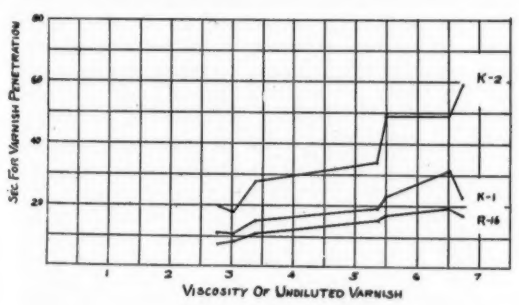


FIG. 4

Variation of phenolic resin varnish penetration with viscosity of various types of undiluted varnishes.

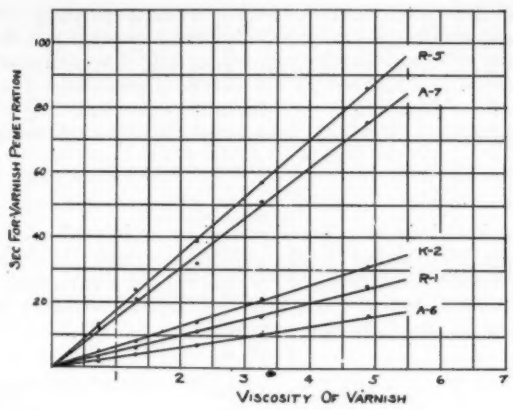


FIG. 3

Variation of phenolic resin varnish penetration with viscosity of diluted varnish.

is evident that varnish penetration is not only proportional to castor oil penetration but to any oil of the type studied in this paper. For investigating hard papers there is, hence, no need of using a viscous oil such as castor oil when proportionate results can be obtained with lower viscosity oils such as sperm oil.

TABLE IV

PENETRATION DATA USING VARIOUS OILS

	Seconds for Penetration				
Paper No.	Castor Oil Vis.-7.20	Motor Oil S.A.E.-60 Vis.-3.70	Motor Oil S.A.E.-40W Vis.-2.38	Motor Oil S.A.E.-10W Vis.-.68	Sperm Oil Vis.-.31
R-1	23	14	9	3	2
R-2	13	7	5	2	1
R-5	70	40	27	9	4
A-2	111	66	45	14	7
A-3	19	11	7	3	1
A-4	30	21	13	4	2
A-5	8	5	3	1	1
A-6	18	10	7	3	1
A-7	60	39	26	8	4
K-1	17	9	7	3	1
K-2	28	16	12	4	2
K-6	196	118	78	27	13
K-22	98	62	39	13	7

If the data of Fig. 5 are replotted such that the time in seconds for penetration is a function of the oil viscosities, it is seen (Fig. 6) that penetration (S) for any one paper is not proportional to the viscosity (V) of various type oils. This is true for the same reasons as set forth in connection with Fig. 4, that is, the product, n cos θ, is not a constant for all oils.

Porosity vs. Oil Penetration

In the course of this investigation a very interesting re-

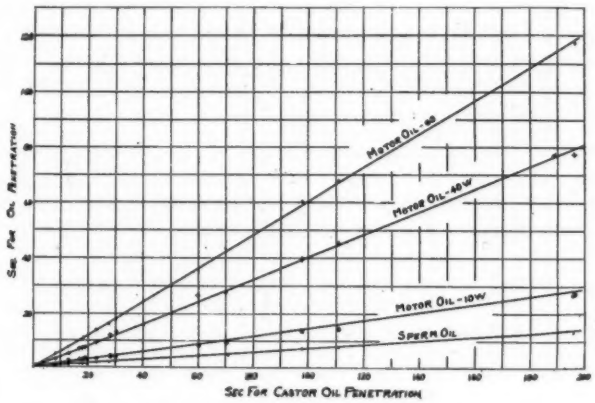


FIG. 5

Comparison between castor oil and other oil penetration.

lationship was found to exist between porosity of the paper and the quotient, seconds for oil penetration divided by the thickness of the paper squared. The reciprocal of porosity as measured by the Gurley Densometer reading, plotted a linear curve with the above quotient, Fig. 7.

Equation (1) can be transformed into the following:

$$\frac{1}{R} = \frac{n \cos \theta}{2V} \frac{S}{T^2} \qquad (2)$$

Which gives an expression for the reciprocal of the effective pore radius of the paper. For any oil, n and V are constant leaving cos θ, S and T as the variables. For the papers studied cos θ can be taken as constant which results in the following expression

$$\frac{1}{R} = K \frac{S}{T^2}. \qquad (3)$$

where K is n cos θ/2V. The quotient S/T^2 is easily evaluated and accordingly a measurable quantity proportional to the reciprocal of the pore radius is obtained.

If it be assumed that porosity of a sheet be proportional to its effective pore radius the following expression can be written.

$$D = kK \frac{S}{T^2} \qquad (4)$$

where k is the proportionality factor and (D) is the Gurley densometer reading.

Air flow through a single capillary tube varies as the 4th power of its radius as shown by Cobb (*4*). Paper, however, may be considered as composed of a multiple of these capillary holes in parallel and it is not reasonable to suspect that air flow through paper should follow the law of air flow through a single tube. Carson (*5*) has found that air flow through capillary tubes diverges greatly from theoretical values as the capacity of the capillary increases.

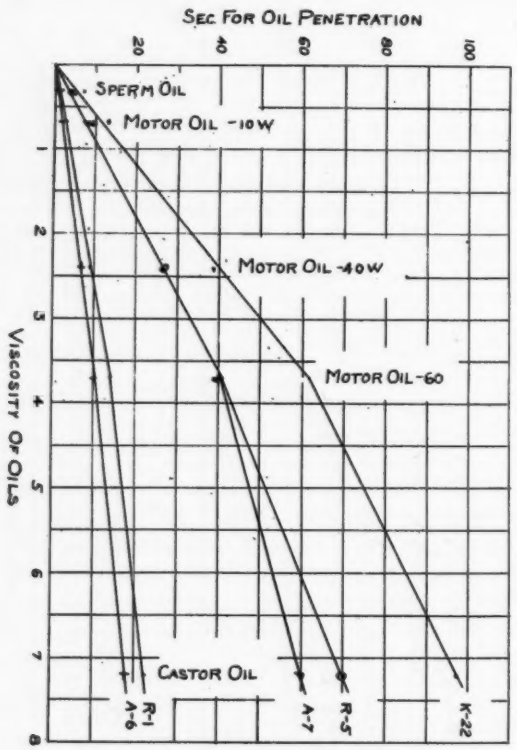


FIG. 6

Penetration variation of different type oils with their viscosities.

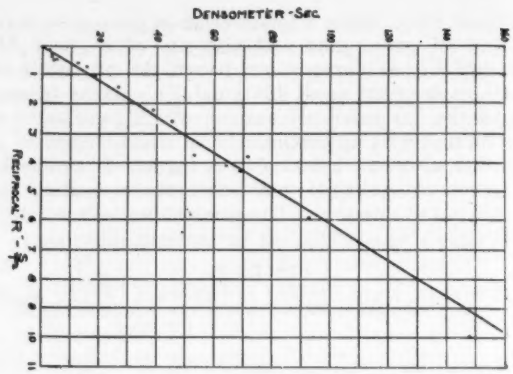


FIG. 7

Comparison between Gurley Densometer and reciprocal of paper pore radius.

TABLE V

COMPARISON BETWEEN WATER ABSORPTION, AIR RESISTANCE, AND CASTOR OIL PENETRATION OF VARIOUS PAPERS.

Paper No.	Thickness, Inches (T)	Water Abs. 1/16" Rise in 5 Mins.	Castor Oil Penetration Seconds (S)	Gurley Densometer Seconds (D)	Pore Radius Reciprocal-Factor $\left(\frac{S}{T^2}\right)$
R-2	.0049	9	12	3.9	.50
R-5	.0072	13	76	26.6	1.47
R-6	.0103	19	18	2.6	.17
R-7	.0107	25	19	2.2	.16
R-9	.0073	14	59	18.4	1.10
R-14	.0067	28	12	3.1	.26
R-15	.0063	27	12	3.3	.30
R-111	.0050	27	12	5.0	.48
R-131	.0053	30	12	4.0	.43
A-2	.0049	11	91	72.0	3.80
A-3	.0114	28	18	2.7	.14
A-4	.0034	13	26	38.8	2.25
A-5	.0073	35	8	1.4	.16
A-6	.0118	35	15	2.0	.11
A-7	.0052	12	70	45.1	2.60
A-9	.0066	24	33	15.6	.76
A-10	.0069	23	21	12.5	.65
K-1	.0106	50	15	1.6	.13
K-2	.0034	13	31	15.0	2.70
K-6	.0041	9	168	149.0	10.00
K-22	.0043	10	110	93.0	5.95
K-31	.0073	0	200	53.0	3.75
K-51	.0061	0	160	69.0	4.30
K-61	.0063	0	166	64.0	4.20
K-71	.0111	51	21	1.9	.17

In Table V is listed the computed values of S/T^2 and the observed Gurley Densometer values (D), while other physical characteristics of the papers appear in Table I.

The Gurley Densometer values are the number of seconds required for 100 cc. of air to pass through 1 square inch of the paper. The paper samples were tested both in the Gurley Densometer and in the penetrometer with the wire side down. It is quite important, in order to get correct results, that both densometer and penetrometer samples be cut from the sheet adjacent to each other. The liquids were carefully maintained at 25 deg. C. during all tests. Viscosity measurements were made with a Stormer viscosimeter calibrated against standard oils.

From the above discussion it appears, that by means of relation (4) the Densometer reading can be determined from the oil penetration value or vice-versa for any one paper. Although this relation holds for papers having a Gurley air resistance betwen 10 and 200 seconds it unfortunately does not hold for papers having an air resistance of the order of 1 to 3 seconds such as the absorbent papers used in the manufacture of laminated phenolics. In addition, the thickness of these absorbent papers cannot be accurately determined, and hence the quotient S/T^2 would be in error. The Gurley Densometer reading is in error for many thin absorbent papers because of holes

and openings in their formation. For hard papers, having high air resistance the Gurley Densometer reading is inaccurate because of air leakage around the clamp. The plotted points in Fig. 7 of papers having air resistance of less than 10 seconds, show the extent of inaccuracies of relation (4) for absorbent papers. Because it is not possible to accurately determine the air resistance of highly absorbent papers, the Gurley test cannot be substituted for the castor oil penetration test as a means of determining their penetration characteristics.

Penetration vs. Water Absorption

Absorbent papers are sometimes subjected to the Klemm water absorption test (*6*) (*7*) which is a measure of the rate paper will blot up water. It consists of suspending a strip of paper with one end immersed in water and noting the height to which the water will rise in five minutes time. This test has been used by some paper manufacturers and phenolic laminators as a criterion of the ability of a paper to be impregnated with phenolic varnishes. In Table V are listed, water absorption, expressed in number of 1/16 inches water rises up a strip in 5 minutes, and the time in seconds for castor oil penetration, which was shown above to be proportional to phenolic varnish penetration. These data show that no relation exists between water absorption and castor oil penetration and hence water absorption cannot be taken as a criterion of the penetration characteristics of absorbent paper with phenolic resin varnishes.

Acknowledgment

The author wishes to acknowledge the help given by his colleague G. H. Mains for his assistance and counsel during the experimental work and in the preparation of this paper.

Literature Cited

(1) Westinghouse Electric & Mfg. Co. Material Test Spec. No. 80,070 (1926).
(2) Cobb & Lowe, *Tech. Assn. Papers* XVII: 213-216 (1934).
(3) Washburn, E. W., *Phys. Rev.* 17: 273 (1921).
(4) Cobb, R. M. *Paper Trade J.* 100, No. 16 (April 18, 1935).
(5) Carson, F. T., *Bureau of Standards Research Paper* RP681.
(6) A.S.T.M. Tentative Test Method D-202-34T.
(7) Simmonds, F. A., *Tech. Assn. Papers* XVII: 401-403 (1934).

Pulp and Paper Industry Literature Review

Abstracts of Articles and Patents Compiled by the Abstracts and Bibliography Committee of the Technical Association of the Pulp and Paper Industry, A. Papineau-Couture, John F. Ohlson, C. E. Peterson and Clarence J. West, Chairman

Copies of United States Patents can be obtained from the United States Patent Office, Washington, D. C., for 10 cents each. Send currency, not stamps.

Analytical and Testing Methods

Method for Testing Impregnated Papers, Webs and Other Materials. Kurt Stantien, Berlin Dahlen. Ger. pat. 577,012 (July 14, 1928).—For example, condenser paper is drawn through a bath of one per cent sulphuric acid quinine, dried and then impregnated with paraffine to which was added one per cent pyridin. Now to test this paper for imperfections, it is illuminated with ultraviolet light.—J. F. O.

The Bond Strength of Printing Papers and its Measurement. Julius Bekk. Zellstoff u. Papier, 14, No. 12: 501-02 (Dec., 1934).—After a short discussion of the bond or pick in printing papers, the author gives a description of the construction and operation of an apparatus for measuring this property of printing papers.—J. F. O.

A Sensitive Instrument for Measuring the Air Permeability of Paper and Other Sheet Materials. F. T. Carson. PAPER TRADE J. 99, No. 16: 44-52 (Oct. 18, 1934).—A detailed description of the development, construction, calibration, performance, applications and limitations of the new U. S. Bureau of Standards air permeability tester.—A.P.-C.

Concerning the Light Impermeability (opacity) of Paper. H. Roschier. Zellstoff u. Papier 14, No. 11: 444 (Nov., 1934).—The cellulose fiber itself is almost completely translucent and if it is coated with a liquid of the same refractive index, the result is a transparent surface. The contrast ratio of cellulose or pulp varies with the moisture content, for example, the contrast ratio at 100 per cent dry is 0.73 and at 28 per cent moisture it is 0.64.—J. F. O.

Horizontal Porosity with the Bekk Smoothness Tester As It Affects Smoothness. Julius Bekk. Paper TRADE J. 99, No. 18: 31-33 (Nov. 1, 1934).—Horizontal porosity has but very little effect on smoothness measurement as determined by the Bekk tester, and a formula is given for making the necessary correction for very accurate work.—A.P.-C.

Accelerated Aging Tests for Determining Permanence of Paper. George A. Richter. Ind. Eng. Chem. 26: 1154-1157 (Nov., 1934).—Extended exposures of paper over a 200-day period in circulating air maintained at 38°C. results in physical changes that correlate well with corresponding changes taking place with the same types of paper, respectively, when subjected to the well-known 100°C., 72-hour, oven test. A moderate amount of glue applied as a surface coat does not affect the stability of the better grade papers when artificially aged at 100°C. There is some evidence that formaldehyde is less detrimental than alum when used as a glue preservative. A new series of experiments confirmed that the folding strength of paper is more susceptible to the effect of aging than are the other ordinarily accepted paper tests. Severe chemical oxidation of an unbeaten cellulose fiber is reflected in a marked sacrifice in stability of paper produced therefrom.—A.P.-C.

The Transmission of Water Vapor Through Cellulosic Membranes. Harold Levey. Plastic Products 11: 52-53 (1934).—The amount of water vapor transmitted from an atmosphere of 100 to 50 per cent relative humidity at 70°F. was determined for papers, regenerated cellulose and cellulose esters and ethers. The maximum transmission was obtained for regenerated cellulose, and the minimum was obtained for the esters and ethers.—A.P.-C.

Progress in the Testing of the Surface of Papers. Papier-Fabr. 32, No. 41: 428-29 (Oct. 14, 1934).—Description of a microscope which is especially designed for examining the surface of paper under an illuminated field.—J. F. O.

Color, Gloss and Smoothness Measurements of Papers. A. Klughardt. Wochbl. Papierfabr. 65, No. 44:

777-78 (Nov. 3, 1934).—Methods for measuring color, gloss and smoothness are discussed.—J. F. O.

Concerning Finish and Smoothness. A. Klughardt. Papier-Fabr. 31, No. 52: 697-701 (Dec. 27, 1933).—A new method is worked out for measuring the smoothness by optical means which checks very well with the actual feel and the eye.—J. F. O.

Concerning the Measurement of the Finish of Translucent and Transparent Materials. A. Klughardt. Papier-Fabr. 31, No. 52: 703-04 (Dec. 27, 1933).—Barium sulphate is chosen for the backing when measuring the finish of translucent and transparent materials.—J. F. O.

The Resistance to the Start of the Tear and to the Continuation of the Tear in Papers. W. Brecht and O. Imset. Zellstoff U. Papier 13, No. 12: 564-67 (Dec., 1934); 14, No. 1: 14-16 (Jan., 1934).—By means of numerous line drawings and equations, the authors present a comprehensive study of the mechanics of the tear of paper. The resistance to the start of a tear and the resistance to the continuation of a tear are entirely different, in the first the resistance is a moment while in the latter it is a force. The important factors for each type are discussed.—J. F. O.

New Technic for the Microscopic Determination of Wool in Paper. L. Vidal. Mon. Papeterie Francaise 71: 402-404 (Sept. 1, 1934).—A detailed description is given of a technic by which it is claimed that wool can be determined quantitatively with an accuracy of about 5 per cent, even by analysts having relatively little experience. The method consists essentially in defibering a sample and determining the vegetable fibrous composition, disregarding the woollen content (the nature of the fibers is identified by using zinc chloro-iodide and the Lofton-Merritt stain, and their proportions are determined by comparison with various mixtures, until the composition of the sample has been reconstituted). A second portion of the sample is cut into small pieces (about 1 mm. sq.), defibered (using soda ash, but not caustic soda, if the paper is sized), treated with a cold 1 per cent bleaching powder solution for about 12 hrs. (sodium or potassium hypochlorite must not be used), and then compared microscopically with mixtures in various proportions of wool and the previously reconstituted vegetable-fiber furnish until the sample is reconstituted.—A.P.-C.

Concerning of Simple Differentiation Between Genuine Parchment Paper and All Substitute Papers. H. Salvaterra and F. Noss. Papier-Fabr. 32, No. 34:371-73 (Aug. 26, 1934).—The authors describe briefly the earlier methods used for the differentiation between genuine parchment and substitutes, and then a method in which a thin piece of paper cut with a microtome is subjected to polarised light and studied with a microscope. Genuine parchment paper is easily distinguished by this method.—J. F. O.

Concerning the Determination of the Parchment Swelling of Pulps and the Testing of Commercial Papers for Fat Penetration. August Noll and Walter Nagel. Papier-Fabr. 32, No. 24: 277-84; No. 25: 289-92 (June 17, 24, 1934).—By means of numerous data, the authors discuss the following, the parchment swelling as a characteristic of pulps, the fat test and its theoretical basis, a new standardized testing instrument for the fat test, the phthalic acid di-ethyl ester as a new single testing reagent for the fat test, investigation over the influences of the various factors of the fat test with pulps and papers, the bubble test and its basis and previous status, a new standardized testing instrument for the bubble test, investigations of the influences of the various factors of the bubble test with pulps and papers, and the theoretical and practical relation between the fat test and the bubble test.—J. F. O.

Paper Specialities

Electricity in Paper. F. Hoyer. Pappers-Trävarutid, Finland 16, No. 19: 815-816, 818 (Oct. 10, 1934); Papier-Ztg. 59, No. 80:1398-1399 (Oct. 6, 1934); Bull. Inst. Paper Chem. 5, 75, 106.—The different places where paper is liable to acquire electric charges in the paper machine and the printing press are described as well as the means employed for removing or preventing static charges. Reference is made to a new type of printing paper which has recently appeared on the market and where the idioelectric properties are suppressed or at least considerably reduced by a special treatment. Experiments with these papers were on the whole satisfactory and the treatment does not involve an increase in price. Details are still kept secret on account of the patent situation.—C. J. W.

Electricity in Paper. Henri Muller. Papeterie 56: 1014-1021, 1066-1074 (Oct. 10, 25, 1934).—A discussion of the mechanism of the electrification of paper, particularly on the paper machine, of the methods available for getting rid of it and of their efficiency.—A.P.-C.

Transparent Papers. C. Becher, Jr. Papier-Ztg. 59, No. 90: 1564 (Nov. 10, 1934).—This article deals with papers to which transparency is imparted by subsequent impregnation methods. Different processes, suitable papers and impregnating agents are briefly discussed.—C. J. W.

Hard Papers. Bürgel. Papier-Ztg. 59, No. 83. 1449-1451; No. 84: 1468, 1470 (Oct. 17, 20, 1934); Bull. Inst. Paper Chem. 5: 98.—Hard papers are made from papers of certain qualities and synthetic resins in the form of endless webs, plates and tubes. The manufacture is described in detail and the various applications are discussed. Their chief use is for electrical and other insulating purposes.—C. J. W.

Differentiation of Vegetable and Imitation Parchment. Industria carta 1, No. 9:401-403 (Sept., 1934); Bull. Inst. Paper Chem. 5:98.—The different methods for differentiating genuine from imitation parchment are critically discussed. The author gives preference to boiling in three percent caustic soda as the most creditable test, eventually supplemented by microscopic investigations.—C. J. W.

Impregnation of Cardboard Counters for the Purpose of Improving Their Water Resistance. I. V. Plotnikov. Izvestiya Tzentral Nauch.-Issledovatel. Inst. Kozhevennoi Prom. 1932, No. 10-11:39; C. A. 28: 7526.—Best results were obtained on using compositions containing heavy petroleum bottoms, which were treated with zinc sulphate at 250° for 12 hours. The composition was then dissolved in solvent naphtha and spindle oil or it was mixed with hydroxynaphthenic acids. Cardboard impregnated with this material showed a water absorption of 6-10 percent after 2 hours' immersion against 70 percent for unimpregnated cardboard and 25-30 percent after 24 hours' against 90 percent.—C. J. W.

The Manufacture of Corrugated Board in the Paper Mill at Bogalusa. U. S. A. Svensk Pappersforadlingstid. 1, No. 21:63; No. 22:65-66 (Nov. 15, 30, 1934); Bull. Inst. Paper Chem. 5:115.—A description is given of the process employed as Bogalusa for the converting of the sawmill waster from the Great Southern Lumber Co., which is not suitable for the sulphate mill into 0.009 corrugated board. The new board machine installed by the Black-Clawson Co. and its novel features are discussed.—C. J. W.

Water-Proof Corrugated Board and Corrugated Board Packing, Fritz Hoyer. Papier-Fabr. 32, No. 40: 419-21 (Oct. 7, 1934).—General discussion of corrugated board, together with methods of making it waterproof, especially by impregnating with asphalt.—J. F. O.

The Formation of Wrinkles in Paper and Board. C. Url. Wochbl. Papierfabr. 65, No. 43: 756-57 (Oct. 27, 1934).—The causes of wrinkles in paper and board are discussed and means to eliminate same. Uneven drying or moisture content is the chief cause for wrinkles.— J. F. O.

Investigation of Coasters for Beer Glasses, Made of Wood Pulp (Paper Stock). F. Moll. Wochbl. Papierfabr. 65, No. 39: 691-93 (Sept. 29, 1934).—The properties desirable for a beer glass coaster are first discussed, followed by ways and means for testing these properties. —J. F. O.

Process for Making Paper, Carton, Board and Other Webs Impervious to Water. Hans Wrede, Berlin. Ger. pat. 600,220 (March 24, 1931).—By means of a spray device, a size solution and a hardening medium is applied to the paper simultaneously, the mixture taking place in the spray device and the speed of the spray prevents premature coagulation. In this manner a complete saturation of the size by the hardening medium takes place.—J. F. O.

Process for the Manufacture of Webs of Paper, Board and Similar Materials Covered on Both Sides with Metal Foil. Leopold Rado, Berlin. Ger. pat. 601,432 (Nov. 28, 1931).—Two webs of paper, upon which a metal foil is pasted in the usual manner by means of a water insoluble, non-melting paste, are joined together at their uncoated sides by means of a meltable medium which does not contain water.—J. F. O.

Arrangement for the Formation of Sheets from Mixtures of Paper Materials. Otto Strecker, Darmstadt. Ger. pat. 601,525 (May 30, 1933).—The invention is characterized by making it possible to lower or raise the wire upon which the sheet is formed.—J. F. O.

Process for the Manufacture of Roofing and Insulation Board with a Metallic Like Surface. A. S. Jens Villadsens Fabriker, Copenhagen. Swed. pat. 80,613 (Nov. 30, 1932).—After drenching and treatment of the surface with bitumen, the board is sprinkled with a metal powder, preferably aluminum bronze which is mixed with a granular material such as fine sand.—J. F. O.

Device for the Treatment of Fibers Suitable for the Manufacture of Paper and Roofing Felt. Edouard Hery, Paris. Czech. pat. 46,523.—J. F. O.

Process for the Manufacture of Multiple Layer Bituminous Paper. Carl A. Braun, Berlin. Ger. pat. 602,616 (Oct. 16, 1932).—Webs of bituminous paper and non-bituminous paper are brought together, passed over the couch roll and through the presses without crushing, and then over the dryers where the fine bituminous particles melt and soak through the entire layer.—J. F. O.

Process for the Manufacture of Sized Paper, Board and Similar Materials. "Hofa" Holzfaserstoff Gesellschaft m.b.H., Leipzig. Ger. pat. 600,524 (Nov. 3, 1933). —The raw material is washed free from fiber slime before the sizing, only the clean fibers are sized. The sized fibers are then mixed with the unsized fiber slime, and in this manner any degree of sizing desired is obtained with savings of size from 30 to 50 per cent.—J. F. O.

Roofing Paper. Reichsverband Deutscher Dachpappenfabrikanten E. V., Berlin. Ger. pat. 600,565 (Nov. 24, 1932).—A process for marking roofing paper with dyestuffs so that it can be distinguished from other papers. —J. F. O.

The Application of Rubber to Paper Fibers. H. B. Townsend. Paper Trade J. 99, No. 25: 37-38 (Dec. 20, 1934).—A brief review.—A.P.-C.

Longitudinally Creped Paper. Hermann Rosenfeld. Fr. pat. 747,882.—Paper is creped longitudinally by gathering into successive narrow longitudinal folds, successive folds being begun either at one edge and proceeding to the opposite edge, or being started in the middle and proceeding simultaneously towards both edges. Longitudinal creping may be combined with the ordinary transverse creping if desired.—A.P.-C.

Manufacture of Metallized Paper. I. G. Farbenindustrie A.G. Fr. pat. 767,561 (May 1, 1934).—Metallized papers are obtained by incorporating metal in the form of a fine powder in a paper making furnish, preferably together with a suitable suspension agent, and sheeting on a paper machine. For paper particularly suitable for electromagnetic purposes, a magnetic metal such as iron, nickel, cobalt or magnetic alloys are used. Finely divided metals are particularly conveniently obtained by decomposition of metal carbonyls.—A.P.-C.

Paperboard Requirements of the Converter. Pierre Drewsen. Paper Ind. 16: 478-479 (Oct., 1934).—A brief discussion of paperboard sheet characteristics and roll defects and of the trouble they cause in converting plants.—A.P.-C.

Photo-Electric Control of Bag Machines. F. Gulliksen. Paper Ind. 16: 568-569 (Nov., 1934).—A brief description of the operation and merits of photo-electric register control, using a compensated, two-phototube scanner. —A.P.-C.

Process and Machine for the Manufacture of Composite Paper. Bitumen Investments, Inc. Fr. pat. 763,131.—The invention consists in producing a paper having one face waterproofed by means of asphalt while the other contains no bituminous substance and is sized with the ordinary sizing agents, by delivering to the paper machine a furnish containing a bituminous emulsion and delivering on top a second furnish containing no bitumen. There is practically no mixing of the two layers, other than a felting at the interface to produce a practically unitary sheet.

Cigarette Paper. Neurburg'sche Verwaltungsgesellschaft. m.b.H. Fr. pat. 43,277, addn. to 747,943.—According to the main patent, the acidity of the paper is made equal to that of the tobacco by addition of acids such as oxalic. The present improvement provides that this be accomplished by the addition of acid salts or of salts having an acid reaction when in aqueous solution, *e.g.*, sodium bitartrate, sodium benzoate, sodium or calcium acetate.—A.P.-C.

Marbled Paper, Etc. Avram Diamand. Brit. pat. 406,661 (Feb. 28, 1934).—In producing marbled effects, paper, silk, linen, etc., is damped over areas which form characters, etc., of an advertisement, etc., and fed into contact with pigment(s) carried by a floating medium, *e.g.*, by a film of water, tragacanth gum, linseed oil, etc., the pigment(s) being transferred to the undamped areas. —A.P.-C.

Safety Paper. Samuel S. Himmel. Fr. pat. 771,472 (April 9, 1934).—Distinctive marks are printed or otherwise applied on base paper, and the latter is then covered with a coating that is substantially or nearly opaque when dry and appreciably transparent when wet.—A.P.-C.

Parchment Paper. Ervin E. Strawn. Brit. pat. 407,-

246 (March 15, 1934).—Parchmentized sheet or web material is made by applying to the surface of a porous cellulosic base (*e.g.*, waterleaf kraft, unsized ground wood paper, cotton fabric, paper formed into cheese cloth) a thin coating of material, chemically resistant to the parchmentizing reagents and of sufficient fluidity to permeate the pores of the base, the coating adhering securely, and then parchmentizing the base to cause shrinkage whereby the coating is contorted to resemble leather and is more intimately united with the base. The coating material may be liquor from waste moving-picture films, *i.e.*, nitrocellulose dissolved in an alcohol-acetate solution, or printers' ink may be used to produce a transfer sheet like carbon paper. The uncoated part of the base may be finally stripped off to leave the coating with a very thin layer of fibers, the ends of which project from the surface of the coating material and facilitate the adhesion of further coating material.—A.P.-C.

Paper. Harry H. Nelson and Guillaume Becker. Brit. pat. 410,310 (May 17, 1934).—Cellulose thiosulphocarbonate is precipitated on the fibers in a non-coagulated soluble form by means, *e.g.*, of a solution of sodium chloride, sodium sulphate or ammonium chloride. The alkali cellulose for the manufacture of the thiosulphocarbonate is made at a low temperature. The caustic soda is made at a concentration higher than that required and diluted by the addition of ice to obtain the solution at a low temperature. A small amount of resin soap or castor-oil soap is added to the thiosulphocarbonate.—A.P.-C.

Wood Pulp for Use in a Bath for Making Seamless Sound-Reproducing Diaphragms. Jesse B. Hawley. Brit. pat. 405,979 (Feb. 12, 1934).—Mechanically or chemically prepared wood pulp is prepared by beating the dry sheets with water in a beater, the mixture being proofed by the addition of wax, rosin, latex, emulsified asphalt, starch and (or) sodium silicate, the wax, rosin, latex and asphalt being set with alum.—A.P.-C.

Fiberboards, Etc. Aktiebolaget Mo och Domsjo Wallboard Co. Brit. pat. 407,161 (March 15, 1934).—Boards for building and fitting purposes are formed from material, made by treating cellulose or cellulose-containing material, which may contain lignin, with less than its weight of a substance capable of reacting with an aldehyde or phenol to form a condensation product, under such conditions that a hard product is formed by condensation between the added substance and the cellulose (-containing material). In an example, sheets are formed from an aqueous suspension of wood fibers, the suspension containing in solution urea, thiourea, a phenol or an aldehyde to the extent of 0.1 to 10% by weight of the dry fiber. The sheets are dried under heat and pressure or may be (partially) dried and then pressed.—A.P.-C.

Machine for Gumming Paper. Anciens Etablissements L. Chambon. Fr. pat. 764,786.—Adhesive is distributed through a narrow slit which terminates practically in contact with the paper at a point where the latter is stretched, preferably vertically, between two rolls. Means are provided for automatically withdrawing the nozzle from contact with the paper, and simultaneously closing it, at desired intervals, in order to apply the gum only at certain points along the paper.—A.P.-C.

Copying Papers. Louis Danel. Fr. pat. 762,412.—Certain portions of the copying coating composition is neutralized or reserved by application of a suitable varnish (*e.g.*, alcohol varnishes, cellulose varnish, or acetone solution of celluloid).—A.P.-C.

Paper Coating Process. Seaman Paper Co. Fr. pat. 760,515.—The coating unit is located at a suitable point in the drier section of the paper machine, and a special system of roll distributors is provided for applying a smooth, uniform layer of coating composition on the paper.—A.P.-C.

Wrapping Materials. Curt Joseph. Brit. pat. 410,170 (May 10, 1934).—A white or colorless transparent or translucent paper is made impervious to ultra-violet light without changing its appearance by treatment with one or more of the following: "umbelliferous acetic acid," its ester umbelliferone and its derivatives, esculin, quinine, salol and anthracenes.—A.P.-C.

Greaseproof Cardboard. Henri A. T. Calmels. Fr. pat. 764,403 (May 22, 1934).—Cardboard is coated with a composition having a basis of latex and casein and, after drying, a layer of gelatin which is then insolubilized.—A.P.-C.

Composite Board. Lonza Elektrizitatsswerke und Chemische Fabriken A.G. Belg. pat. 401,954 (April 30, 1934).—Several sheets of board are assembled by means of cellulose acetate; the combined sheet may be covered on one or both faces with a thermoplastic sheet.—A.P.-C.

New Corrugated Board and Process and Apparatus for Making It. Société J. P. D. Nerson. Belg. pat. 402,008 (April 30, 1934).—The board consists of a number of corrugated sheets joined together by means of plain facing sheets which are fixed to the peaks of the corrugations by means of an anhydrous adhesive.—A.P.-C.

Art of Paper and Board Manufacture. Francis L. Carson assignor to The Pacific Lumber Co. U. S. pat. 1,979,864 (Nov. 6, 1934).—Redwood bark is mechanically disintegrated, preferably in a Williams swing-hammer mill; without further mechanical treatment other than grading (*e.g.*, by screening or by air- or water-flotation) it is suspended in a viscous medium (preferably a 2.75% starch solution) and sheeted on a paper or board machine, the back waters being re-used.—A.P.-C.

Artificial Wood Board. Alvin Antoni. U. S. pat. 1,969,291 (Aug. 7, 1934).—Material suitable for soundproof walls, box manufacture, etc., is formed comprising a plurality of single boards each formed of mixed sawdust and wood pulp, saturated with a cementing material such as glue and united with each other and re-enforced and covered with a finishing sheath.—A.P.-C.

Method of and Apparatus for Coating and Drying Paper. Herman G. Rappolt and Lynn B. Case. U. S. pat. 1,979,346 (Nov. 6, 1934).—The coating material is applied at once in desired amounts, instead of applying it in excess and then removing the excess. Smoothing of the coating is effected by passing over non-rotating rolls having cut-out portions, the use of knives or knife doctors being entirely dispensed with. Drying is carried out in a closed chamber divided into a suitable number of compartments by blowing air on both sides of the sheet under such pressure as to support it in its passage through the drier. The temperature and relative humidity of the air fed into each compartment are independently adjustable.—A.P.-C.

Gummed Paper and Tape. Paul W. Herrlinger assignor to The Gummed Products Co. U. S. pat. 1,978,631 (Oct. 30, 1934).—The gummed surface of the tape is provided with a number of longitudinal weakened lines spaced from one another a distance not greater than twice the width of one of the lines, so that when the tape is placed longitudinally along an edge to be covered, one or other of the weakened lines will fall into alignment with the edge.—A.P.-C.

Transfer Device Suitable for Use with Various Writing Machines. Louis C. Antrim assignor to Autographic Register Co. U. S. pat. 1,975,057 (Sept. 25, 1934).

—An unsized paper impregnated with an oil and pigment ink solution has on its obverse side a pyroxylin and metallic powder coating for rendering the obverse side non-transferring when pressed into contact with another medium.—A.P.-C.

Process of Manufacture and Composition of Matter in Forming Stencil Papers. Leo M. Fink assignor of three-eighths to Ida T. Barnes and one-eighth to Ralph W. Upton. U. S. pat. 1,978,836 (Oct. 30, 1934).—A mixture of amyl acetate and formaldehyde is applied to one side of a sheet of paper and a mixture of camphorated oil, glycerine, amyl acetate, collodion and formaldehyde is applied to the other side.—A.P.-C.

Method of and Apparatus for Coating Paper. Stanislas Lebel assignor to S. D. Warren Co. U. S. pat. 1,980,923 (Nov. 13, 1934).—A substantially continuous and more or less uniform layer of coating material is applied to the surface of a sheet of paper, and the latter is subjected to a jet of compressed air, disposed transversely of the sheet, and in a direction opposite to its direction of travel, at an angle thereto.—A.P.-C.

Prepared Roofing. Thomas B. Lehon assignor to The Lehon Co. U. S. pat. 1,976,948 (Oct. 16, 1934).—A sheet which has been bodily distorted while wet to form a multiplicity of projections extending outwardly from the plane of the sheet without impairing the strength, density or uniform thickness of the felt (*e.g.*, "bottle wrapper"), is impregnated and coated with bituminous material to cover the projections and fill the depressions in the sheet.—A.P.-C.

Acoustic Wall Board. Kichiro Izumiyama. U. S. pat. 1,976,282 (Oct. 9, 1934).—The board is constructed so that its density is not uniform, the parts of minimum density being embossed latticewise (or in other suitable form). The board is laid on the wall in such manner that the embossed parts come in contact with the wall, non-communicating spaces being thus formed between the board and the wall.—A.P.-C.

Flexible Floor Covering Material. James E. Graham and Edwin M. Lines, assignors to Bird and Son, Inc. U. S. pat. 1,971,036 (Aug. 21, 1934).—A base material such as an asphalt-saturated felt is provided with a wearing layer of substantial thickness essentially comprising non-fibrous finely powdered wood, a binder such as a nitrocellulose mixture providing a porous body and colored to form a design and having its pores filled with a hardened binder such as a linseed oil and resin composition.—A.P.-C.

Reenforcing Paper. Edward H. Angier. U. S. pat. 1,974,594 (Sept. 25, 1934).—A re-enforced waterproof paper is made by leading opposed webs of paper downwardly in converging paths to a horizontal line of opposition along which they are pressed together, maintaining a pool of adhesive waterproofing material in the trough formed between the webs, and leading an open-meshed reinforcing fabric through the pool between the two paper webs.—A.P.-C.

Manufacture of Artificial Leather. Milton O. Schur assignor to Brown Co. U. S. pat. 1,980,881 (Nov. 13, 1934).—A soft, absorbent, uniformly textured waterlaid felt, suitable for conversion into artificial leather by impregnation, *e.g.*, with rubber latex, is produced by mechanical disintegration in the absence of water of pulp containing at least about 93% alpha-cellulose, suspending in water and sheeting on a paper machine.—A.P.-C.

Waterproof and Punctureproof Paper. Lloyd G. Copeman assignor to Copeman Laboratories Co. U. S. pat. 1,976,329 (Oct. 9, 1934).—A layer of latex is applied between two layers of paper, the paper being pressed or folded together while the latex is still plastic or tacky.—A.P.-C.

Molded Pulp Article. Merle P. Chaplin assignor to Fildelity Trust Co. U. S. pat. 1,979,794 (Nov. 6, 1934).—The invention relates to the manufacture of multi-layer articles in pulp molding machines, the articles having a deposit of filling material between two layers of pulp. The apparatus used consists of a vat with compartments containing different solutions. The dies on which the articles are formed by molding are mounted on a carrier and are passed successively through the different compartments; in the first they receive a layer of pulp, in the second a layer of filling material and in the third another layer of pulp, which may be different from the first layer.—A.P.-C.

Cord. Ervin E. Strawn assignor to Paterson Parchment Co. U. S. pat. 1,972,607 (Sept. 4, 1934).—"Fibercord" is produced by immersing or freely suspending one or more rolls of narrow parchment paper ribbon, and simultaneously drawing and twisting it into rope.—A.P.-C.

Process of Making Felt. Bernard C. Beckman and William T. Hofmann assignors to The Patent and Licensing Corp. U. S. pat. 1,979,819 (Nov. 6, 1934).—A roofing felt of tapering thickness is made on a multi-cylinder machine in which some or all of the cylinders are provided with impervious bands of various widths, which results in building up the finished felt of successive plies of different widths.—A.P.-C.

Plaster Receiving Base. Harry A. Cumfer. U. S. pat. 1,977,046 (Oct. 16, 1934).—A continuous web of wire netting is corrugated and applied to a sheet of asphalt-impregnated felt, the two webs being adhesively united at the trough of each corrugation of the wire netting. A second felt web is impregnated and cut into strips fitting inside the troughs of the corrugations of the wire netting.—A.P.-C.

Process of Treating Paper and Product Thereof. Willard E. Swift assignor to United States Envelope Co. U. S. pat. 1,977,022 (Oct. 16, 1934).—In order to prevent the sticking-together of paper cups that have been nested, the paper from which the cups are made is sprayed with wax (preferably Carnauba) so as to deposit minute separate particles. The paper is then passed between heated rolls to smooth and spread the deposited particles, but still leaving ample space between the wax particles so as not to impair the susceptibility of the paper to sticking, by ordinary adhesives, in the subsequent fabrication into cups or other articles.—A.P.-C.

Rubber-Impregnated Fibrous Sheet Material. Stephen B. Neiley assignor to Dewey and Almy Chemical Co. U. S. pat. 1,978,385 (Oct. 23, 1934).—A long-fibered well beaten furnish derived from textile fiber is combined with a short-fibered substantially unhydrated furnish also derived from textile fiber, and the absorptive sheet produced therefrom is impregnated with a liquid rubber saturant.—A.P.-C.

Paper Manufacture. James A. Yates assignor to Brown Co. U. S. pat. 1,977,221 (Oct. 16, 1934).—Paper containing not more than 0.5 to 2% of regenerated cellulose (viscose) is treated with glycerine containing chlorine in solution.—A.P.-C.

Method and Means for Reproducing the Grain of Wood on Paper. Lawrence W. Case. U. S. pat. 1,979,065 (Oct. 30, 1934).—The apparatus comprises a pair of heavy, metal, rotatable bed rolls, with their axes paral-

lel, and a heavy, metal rotatable pressure roll, mounted above and parallel to the bed rolls, in such a manner that a wooden roll having the desired grain may be inserted to rest on the bed rolls and be pressed by the pressure roll. The paper to be treated is passed through the apparatus and dye solution of the desired color or tint is supplied to the wood roll.—A.P.-C.

Composition Board. John A. Wiener and John B. Harmon. U. S. pat. 1,978,923 (Oct. 30, 1934).—Fireproof and waterproof composition boards are produced by agitating in water shredded wood to separate the matted fibers, mixing about 25% by weight of these fibers with about 75% of pulverized mica till a homogeneous substantially 3% stock is obtained, forming the stock into sheets containing 50 to 60% water, and subjecting to a pressure above 250 lbs. per sq. in. and at a temperature between 300° and 450°F. till the sheets are thoroughly dried, hardened and rendered inelastic.—A.P.-C.

Process for the Manufacture of Safety Paper. Maurice Brot and Henri Pellet. Fr. pat. 769,286.—Salts (preferably organic) of manganese or iron are added to the stock, together with salts (also preferably organic) of rare or heavy metals; the salts are insolubilized by various anions, particularly the ferrocyanide ion. The safety properties of the paper can be enhanced by incorporating in the furnish a suitable coloring matter that is sensitive to the generally used ink-eradicating reagents. Further enhancement of the safety characteristics is obtained by applying coating reagents (particularly soluble ferrocyanides) with or without gelatine.—A.P.-C.

Marbled Paper. A. Diamand. Brit. pat. 406,661 (Aug. 29, 1932).—The paper is damped over predetermined areas and fed to a point where it comes in contact with a pigment, which is carried by a film of water or other medium flowing by gravity towards the paper, and is impressed on the undamped areas; the excess moisture is afterwards removed by evaporation or mechanical means.—A.P.-C.

Lithographic Re-Transfer Paper. K. Naumann and E. Nestler. Brit. pat. 408,872 (April 18, 1933).—The retransfer paper is lightly marked on the back, either by painting or watermarking, to indicate the direction of orientation of the fibers.—A.P.-C.

Manufacture of Metallised Paper. I. G. Farbenindustrie Aktiengesellschaft. Fr. pat. 767,561.—Metal in the form of a finely divided powder is incorporated in the furnish.—A.P.-C.

Process for Rendering Wall Paper Suitable for the Manufacture of Lamp Shades. L. J. Kaffmann. Belg. pat. 403,300 (June 30, 1934).—Wall paper is treated with acetic acid to fix the colors, and then with a solution of zinc chloride; a white paper lining is applied and the whole is covered with a coating of oil or varnish.—A. P.-C.

Process for Waterproofing and Fireproofing Papers, Boards, Etc. Brick Trust, Ltd. Belg. pat. 403,139 (June 300, 1934).—The material is immersed in a solution of metal carbonate and fatty acids, and then in a solution of zinc sulphate which results in the formation of zinc stearate which renders the material non-wettable.—A. P.-C.

Process for the Manufacture of Enamelled Paper or Board. Carl Weisshuhn & Sohne and Erich Bartel. Fr. pat. 765,348.—The paper is covered with a thick coating of glue or gelatin containing latex, glycerin, etc., as softening or plastifying agents; after drying, a coating of hardening agents such as formalin, alum, tannin, etc., is applied; after a second drying a varnish coat is applied.—A. P.-C.

Production of a Material Containing Rubber for Use As a Substitute for Leather. H. Jackson. Brit. pat. 402,982 (March 27, 1933).—A latex-vulcanizing agent is added to vegetable paper-forming material in a beater, both constituents of the mixture being free from latex coagulants. Rubber latex is introduced into the pulp, before, while, or after it leaves the beater for the paper machine.—A. P.-C.

Production of Patterned Sheet Material from Raw Pasteboard. R. F. McKay assignee of International Latex Processes, Ltd. Brit. pat. 418,467 (Nov. 6, 1933).—Boards composed of unsized, felted paper making materials are printed in a design with aqueous dispersions or solutions of rubber or rubber-like materials colored as desired, which are allowed to permeate therethrough. The whole is then impregnated with the rubber or rubber-like solutions or dispersions, a backing of linseed oil paint or sponge rubber, made *in situ*, being previously or subsequently applied.—A. P.-C.

Corrugated Carton and Machine for Its Manufacture. Société J. P. D. Nerson. Fr. pat. 766,352.—Single-, double- or multiple-faced corrugated board is produced using an anhydrous, non-hygroscopic adhesive, which may be either a solid that is liquefiable or at an appropriate temperature (such as tar, pitch, etc.), or in the form of a non-aqueous anhydrous solution.—A. P.-C.

Production of Coated Paper. F. B. Dehn assignee of Seaman Paper Co., Brit. pat. 418,533 (Aug. 3, 1933).—The web of paper produced on any type of paper machine is continuously coated while still moist (*e.g.*, after couching or pressing) and dried and calendered as usual.—A. P.-C.

Manufacture of Parchmentized Fibrous Sheets and Web Materials (Imitation Leather). E. E. Strawn. Brit. pat. 407,246 (July 27, 1933).—A porous cellulosic base, *e.g.*, unsized waterleaf graft, is treated with a thin coating of film-scrap liquor and is then subjected to the parchmentizing liquid (sulphuric acid), whereby the coated surface is contorted into an irregularly grained shape resembling leather, which is finally softened with glycerine.—A. P.-C.

Production of Artificial Leather and Imitation Parchment. R. Müller. Brit. pat. 03,858 (May 1, 1933).—Preformed fleecy webs of cellulose or wood pulp, while on an endless metallic band, are impregnated with an aqueous dispersion of rubber containing coloring, filling and vulcanizing agents if desired, and, after expressing the surplus liquid, are dried, stripped from the band, grained and (or) vulcanized.—A. P.-C.

Vegetable Parchment and Wrapping Materials for Food. J. Strachan and W. L. Davies. Chemistry & Industry, 53:973-975 (Nov. 16, 1934).—Vegetable parchment has the greatest wet strength. It contains 22 p.p.m. of copper and 50 p.p.m. of iron, but does not appreciably accelerate the autoxidation of butter. It is opaque to actinic rays; when cellophane is used, this should be deeply colored. Evaporation is a minimum through varnished (one side) cellophane.—A. P.-C.

Manufacture of Composite Paper. A. G. Bloxam assignee of International Bitumen Emulsions Corp. Brit. pat. 418,253 (Sept. 13, 1933).—A duplex sheet, the lower layer of which is impregnated with an aqueous asphalt dispersion whilst the upper layer is untreated, is produced by adding to the wet end of a fourdrinier machine a second flow-box placed above the wire and at such a distance from the first flow-box that the stock for the second layer flows on to the first layer before any substantial dewatering of the latter has taken place. The two layers are thus

kept sharply defined although their surfaces of contact are intimately combined. The asphalt dispersion is prepared by adding to molten asphalt of softening point about 55°C. an aqueous mixture of borax, casein and caustic potash (or sodium sulphate and (or) sodium carbonate). The pH of both stocks is kept at 5 to 6. The paper is pressed and dried and may be crimped. Reinforcing threads may be inserted between the layers.—A. P.-C.

Composition for Coating and Impregnating Paper and the Like. I. Furman. Brit. pat. 418,203 (Jan. 20, 1933).—Silk, either pure or retaining its sericin content, is dissolved in an ammoniacal solution of the hydroxides of copper, nickel, zinc, cobalt, cadmium, etc. A vegetable oil (*e.g.*, castor oil) is then added as softener and a saponified wax (*e.g.*, beeswax, stearic acid, beef tallow, or other oleaginous material) as a setting agent. A dye or pigment may be added and finally an ammonium salt to render it insoluble.—A. P.-C.

Pulp Board and Method of Making Same. Hubert L. Becher. U. S. pat. 1,980,979 (Nov. 20, 1934).—Board formed in a mold is subjected to a preliminary pressing to remove the bulk of the moisture, subjected to heat till a substantial proportion of the interstitial moisture (but substantially none of the colloidal water) has been removed, and finally subjected to combined heat and pressure till completely dry, the pressure being ultimately released without cooling the platens. A strong board can be thus obtained without the use of a binder.—A. P.-C.

Coated Paper. Allen F. Owen assignor to The Naugatuck Chemical Co. U. S. pat. 1,982,018 (Nov. 27, 1934).—A hygroscopic agent, such as glycerine, diethylene glycol, ethyleneglycol, triethanolamine, etc., is added to a paper coating composition which contains mineral matter and adhesive and which may also contain an aqueous dispersion of rubber.—A. P.-C.

Paper Manufacture. Joseph H. Swan 3rd, assignor to The Gardner-Richardson Co. U. S. pat. 1,985,698 (Dec. 12, 1934).—A sheet or board consisting of a single or several plies, with or without an intermediate waterproofing and moistureproofing layer (*e.g.*, of asphalt), is given a coating comprising: (1) a base coat containing rubber latex emulsion, an alkali metal polysulphide, an alkali (*e.g.*, ammonia), casein and paraformaldehyde; (2) a second coat consisting essentially of a mixture of an oil-insoluble adhesive (*e.g.*, casein), a polyhydric alcohol such as glycerine and a preservative such as paraformaldehyde; and (3) a solution of a metallic salt to insolubilize the casein, or a final overlying coat of water-insoluble wax.—A. P.-C.

Apparatus for Making Roofing. Arthur G. Leonard, Jr., assignor to Orenda Corp. U. S. pat. 1,984,647 (Dec. 12, 1934).—In a shingle or shingle-strip forming machine, the cut-outs formed by making slots to define the ends of the individual shingles are prevented from being carried along with the strips and interfering with the stacking of the latter by twisting the conveyor belts on to which the strips are delivered from the cutter.—A. P.-C.

Pulp Forming Process. Earl Stafford assignor to The Richardson Co. U. S. pat. 1,981,573 (Nov. 20, 1934). —Bituminous and like material is incorporated with pulp by passing through a rod mill or through a hammer mill. —A. P.-C.

Reinforced Tissue Paper. Wilhelm Sponholz and William Semmler. Brit. pat. 413,018 (July 12, 1934).—Substantially parallel threads are fed between two pulp layers in a paper making machine, to form a soft, supple reinforced paper tissue for surgical bandages.—A. P.-C.

Waterproofing and Fireproofing Paper. Yvonne A. R. Leroy (née Ombreda). Fr. pat. 769,229 (Aug. 22, 1934).—Paper, etc., is steeped in an aqueous solution containing a metal carbonate and a fatty acid, then into an aqueous solution of zinc sulphate, whereby the fibers are impregnated with insoluble zinc stearate or other zinc salt. The fibers are passed between rollers and into a third bath containing hydrated sodium borate, phosphates of sodium and ammonium, sodium tungstate and phosphorus oxychloride.—A. P.-C.

Roofing Material. Albert C. Fischer assignor to The Philip Carey Manufacturing Co. U. S. pat. 1,983,494 (Dec. 4, 1934).—The invention consists primarily in providing a mastic joining strip, or the like, adapted for application to roofing material to serve as a cementing element, packing element or the like, one edge of the strip being preferably serrated or slotted at spaced intervals to form a series of spaced tabs.—A. P.-C.

Roof Covering and Method of Manufacturing Same. Albert C. Fischer assignor to The Philip Carey Manufacturing Co. U. S. pat. 1,983,495 (Dec. 4, 1934).—The invention comprises a number of waterproofing sheets which are prepared so that they may be readily adhered into a composite laminated structure. At least three sheets (more if desired) are used: (1) a foundation sheet which is first attached to the surface to be covered, (2) a "wet sheet" that is normally adhesive on both sides, (3) a "weather sheet" which is preferably surfaced on its weather side with granular material. When greater thickness is desired, additional foundation and wet sheets may be interposed between the foundation and weather sheets. —A. P.-C.

Waterproof Sheet Material. Edward H. Angier. U. S. pat. 1,984,910 (Dec. 18, 1934).—An expansible roofing paper consists of two (preferably creped) sheets, each of which has on its outer surface a substantially continuous absorbed film of water-resisting material (preferably asphalt or the like) and between them a layer of similar waterproofing material in which may be embedded a reinforcing, open-mesh fabric, such as burlap.—A. P.-C.

Composition Building Material. Lester Kirschbraun assignor to The Patent and Licensing Corp. U. S. pat. 1,984,218 (Dec. 11, 1934).—Roofing consisting essentially of plastic waterproof material such as asphalt combined with hardening and other ingredients is provided with reinforcing felt over either or both faces of the upper portion of the roofing elements, that is, the portion that is not exposed to the weather.—A. P.-C.

Packaged Roofing Elements. Lester Kirschbraun assignor to The Patent and Licensing Corp. U. S. pat. 1,982,215 (Nov. 27, 1934).—Finished roofing elements are packaged, with or without packaging boards, and the butt edges and the surfaces of the recesses cut into the butt edges are coated with hot asphalt having a melting point of approximately 150°F.—A. P.-C.

Roofing. Robert Maclean assignor to Amalgamated Roofing Co. U. S. pat. 1,982,679 (Dec. 4, 1934).—A strip of roofing felt is supported at a number of closely spaced points (*e.g.*, by passing over a wire screen) and a jet of saturant (*e.g.*, asphalt) is delivered against the opposite side with sufficient velocity to force the saturant completely through the felt by its own force alone.

Manufacture of Water-Repellent Papers or Paper Articles Sized with Wax Dispersions. Oscar F. Neitzke assignor to Bennett, Inc. U. S. pat. 1,983,918 (Dec. 11, 1934).—Papers or boards sized with wax, after they have come off the paper machine are subjected for a few minutes to a temperature distinctly above the melting point of the wax, but below the scorching temperature, preferably between 225° and 275°F.—A. P.-C.

Process for the Manufacture of Waterproof Papers, Cardboards and Pasteboards. Hans Wrede assignor to The Paterson Parchment Paper Co. U. S. pat. 1,981,405 (Nov. 20, 1934).—Impregnation is carried out by simultaneously spraying solutions of animal glue and of a suitable hardening material such as formaldehyde.—A. P.-C.

Paper. Augustin Maché. Fr. pat. 769,012 (Aug. 17, 1934).—Paper which renders ink applied thereto indelible is made by incorporating sensitizing products in the sizing gelatin or in the paper pulp. The sizing bath may be mixed with a solution containing sodium ferrocyanide and a mixture of substances forming a buffer, *e.g.*, disodium hydrogen phosphate and potassium dihydrogen phosphate. —A. P.-C.

Protective Envelope for Light-Sensitive Materials. I. G. Farbenindustrie A. G. Fr. pat. 769,931 (Sept. 4, 1934).—Sheets of paper, viscose, etc., are impregnated with a substance having substantive properties and absorbing ultra-violet rays, *e.g.*, primuline or sodium di-meta-amino-benzoyldiaminostil-benedisulphonate. A substance preventing oxidation, such as hydroquinone, may be added. —A. P.-C.

Paper Tubes. The Bushing Co., Ltd., and Geoffrey H. Gardner. Brit. pat. 413,684 (July 19, 1934).—A laminated tube consists of layers of paper wound to cylindrical form with a final outer layer of wood veneer, the layers being impregnated and bonded together with a heat-hardening synthetic resin, *e.g.*, a phenol- or thiourea-formaldehyde or glycerol-phthalate resin.—A. P.-C.

Method of Impregnating Fibrous Materials for Building Elements. Konrad Erdmann. U. S. pat. 1,981,592 (Nov. 20, 1934).—Highly porous stiff building elements are formed by introducing fibrous material (*e.g.*, wood wool) into a straight vertical shaft to shape it into a loose hank, which is pulled and simultaneously compressed by means of a pair of rolls mounted at the bottom of the shaft, and passed through an impregnating emulsion bath. The excess of the latter is removed by pressure, and the material is loosened and disintegrated by means of flinging or tossing forks which tear off tufts of impregnated material and throw them on to an endless travelling conveyor, to form a sheet.—A. P.-C.

Machinery

Laminated Board Making Machine. Lloyd T. Murphy. U. S. pat. 1,981,321 (Nov. 20, 1934).—The machine consists of a supporting frame carrying a paste-applying mechanism at one end, a receiving table at the middle and compressing mechanism at the other end. The means for applying paste to the individual sheets are designed so that just sufficient paste is applied to each sheet to ensure proper and thorough adhesion to its co-operating sheet, and so that no paste becomes engaged with the edges of a sheet or on the surface of the finished board. The paste-applying and compressing mechanisms are adjustable so that they can properly handle boards of various thicknesses.—A. P.-C.

Machine for Making Corrugated Paper Board. George W. Swift, Jr., assignor to George W. Swift, Jr., Inc. U. S. pat. 1,981,338 (Nov. 20, 1934).—In order to overcome the drawbacks inherent to the use of curved strippers and guide fingers extending through peripheral grooves in the adhesive-applying roll and around the periphery of one of the corrugated rolls, the fingers are entirely eliminated, and adhesion of the corrugated web to the desired roll is obtained by means of a suitable suction device.—A. P.-C.

Method of and Apparatus for Producing Multishade Mottled Paper. Olof H. Hedstrom, Jr. U. S. pat. 1,981,803 (Nov. 20, 1934).—A pair of parallel troughs containing differently colored solutions are mounted transversely and slightly above the wire of a fourdrinier machine. Each trough is provided with a rotating shaft on which are mounted prongs or fingers of various lengths, so that rotation of the shaft throws out drops of liquid to different distances. The two shafts are rotated so as to throw the liquids towards each other, the troughs are located and the speed of the shafts adjusted so that a certain amount of the drops from both troughs will hit and intermingle with each other in the air before they fall on to the moist web on the wire.—A. P.-C.

The Flow of Stock from the Head Box Upon the Wire. Pappers-Trävarutid. Finland. 16, no. 21:907-908, 910 (Nov. 15, 1934); Bull. Inst. Paper Chem. 5:125. —The author discusses the Russian researches on this subject by Abramovich, Benkovskii and Fayatte. A certain pulp level in the head box determines the rate of flow of the stock upon the wire and gives paper of optimum strength properties. A decrease of this level results in lower opacity. The rate of pulp flow is less than the velocity of the wire. A thorough study of the factors involved in this problem will prove beneficial to the construction as well as the operating engineer.—C. J. W.

What Is New in Process and Auxiliary Equipment? Anon. Paper Ind. 16:487-497 (Oct., 1934).—A fairly extensive summary covering some recent activities of machinery manufacturers of interest to the pulp and paper industry.—A. P.-C.

Sedimentation Save-Alls for Sized Back Waters. G. M. Papeterie 56:794-801, 906-913, 962-966 (Aug. 10, Sept. 10 and 25, 1934).—A discussion of the mechanism of the sedimentation of white water with suggestions regarding the proper design and operation of sedimentation save-alls.—A. P.-C.

Paper Pulp Extractor. Lemuel V. Reese and George W. Johnson assignors to The American Laundry Machinery Co. U. S. pat. 1,981,924 (Nov. 27, 1934).—In a centrifugal machine for removing impurities from pulp, adjustable means are provided for continuously skimming off the light impurities from the inner portion of the rising stratum or column of purified pulp and for disposing of these impurities by centrifugal action which carries them over into a second volute separate from the one into which the purified pulp flows.—A. P.-C.

Micarta Paper Mill Applications. H. F. Horne. Paper Trade J. 99, No. 23-34 (Dec. 6, 1934).—Attention is drawn to the advantages of micarta (laminated phenolic materials manufactured by Westinghouse Electric and Manufacturing Co.) for suction box covers, doctor blades and covering for table rolls.—A. P.-C.

Pulp Filter or Concentrator. E. et M. Lamort Fils. Belg. pat. 401,770 (April 30, 1934).—The fibers picked up on an endless wire or felt are discharged by rapidly vibrating the belt while it is stretched.—A. P.-C.

Pulp Screen. Edward J. Trimbey. U. S. pat. 1,978,443, (Oct. 30, 1934).—This is an improvement on Trimbey's U. S. pat. 1,856,176 (May 3, 1932). According to the latter the unscreened pulp is brought to a high rotative velocity in a stationary cylindrical screen chamber by means of a rotor before it comes into contact with the screen plates; the function of the rotor is also to clean the screen plates of slivers, etc., by causing momentary suction at the back edges of the rotor elements due to their velocity. According to the present invention, the rotor is driven at an appreciably lower speed so that it merely aligns the pulp fibers parallel to the screen plates; cleaning of the plates is obtained by means of a flexible oscillating diaphragm located in the outer casing of the screen.—A. P.-C.

Pulp Screen Plate. George W. Davis. U. S. pat. 1,982,244 (Nov. 27, 1934).—The plate is built up of T-shaped bars, about ⅜ inch deep and 3/16 inch wide, which are removably secured together in side by side parallel relation by means of tie rods. The bars are spaced apart by separate spacers which are short and which obstruct the slots for the least possible distance.—A. P.-C.

Coating Brushes, Their Care and Maintenance. E. G. Milham. Paper Industry 16; 627-629 (Dec. 1934).—A general discussion.

Chipper Knife. James F. Smith. U. S. pat. 1,980,885 (Nov. 13, 1934).—The invention provides a novel and simplified method of fastening chipper knives in the disk, which permits of maintaining the cutting edge of the knife in a predetermined position and which results in a longer effective life of the blade.—A. P.-C.

Chip Cutter. Elwood J. Finegan assignor of one-half to Michael J. Power. U. S. pat. 1,980,193 (Nov. 13, 1934). —Two parallel rolls are mounted on carriages which can float freely on a common base frame. Each roll is composed of an assembly of alternate plain and toothed rings, the plain rings of one roll being opposite the toothed rings of the other roll.—A. P.-C.

Device for Forming Pulp Chips. Walter I. Brown. U. S. pat. 1,985,479 (Dec. 25, 1934).—Suitably mounted parallel knives are reciprocated under a block of wood to form parallel slits, and a shearing knife slices off the slitted portions thus producing chips of uniform size.—A. P.-C.

Critical Factors in Closing the Sheet. James Strachan. Paper Maker & Brit. Paper Trade J. 88, No. 4; TS177 (Oct., 1934).—A brief discussion of the critical mechanical factors operating in the case of long free stuff, which is the most difficult with which to obtain a close sheet.—A. P.-C.

Method of Joining the Ends of Paper Machine Wires. Hans Kurtz. Fr. pat. 764,977.—The ends of the warp wires lying over the last filler wire of the end of the fabric are raised and the filler wire is removed. The same thing is done at the other end of the fabric. The two ends of the fabrics are brought together so that the raised warp wires of one end lie over the horizontal warp wires of the other end, and the raised extremities of the warp wires are fused by means of a blow pipe or other suitable device.—A. P.-C.

Felt Cleaning Suction Roll. Charles L. Ellis. Paper Trade J. 99, No. 18: 44 (Nov. 1, 1934).—A brief outline of the advantages of the Downington felt-cleaning suction roll.—A.P.-C.

A Cylinder Machine Wet-End Electric Drive. R. H. Smith. Paper Ind. 16: 570-572 (Nov., 1934).—A description of various forms of a sectional electric drive for the wet end of a cylinder machine, designed to reduce felt cost per ton of board by increasing felt life and to improve sheet surface by permitting the use of a fine-weave felt. —A.P.-C.

Paper Winding Machine. Walter G. Vernon, Philip D. Parsons and John Edgar Hires, assignor to Scott Paper Co. U. S. pat. 1,976,641 (Oct. 9, 1934).—A toilet paper winder is provided with a continuously rotating turret comprising a number of sets of turret heads, each of which rotatably supports a mandrel carrying the cores on which the strips of paper are wound. The continuous rotation of the turret moves each mandrel into position for winding when a predetermined amount of paper has been wound on the preceding set of cores. Means are provided for perforating the strips at equally spaced intervals, severing the strips when a given length of paper has been wound, and deflecting the loose ends of the severed strips into the next succeeding mandrel to which adhesive has been applied.—A.P.-C.

Requirements of Materials for Weaving Fourdrinier Wires. Hugh E. Brown. Paper Trade J. 100, No. 4; 35-38 (Jan. 24, 1935).—An outline of the properties required in wires to make them suitable for the manufacture of fourdrinier and cylinder face wire cloth, together with a description of the latest annealing methods illustrated by microphotographs showing the grain structure of the metal characteristic of various degrees of annealing.—A.P -C.

Felt Jacket for Paper Machine Rolls. Adolf Bong assignor to Aktiengesellschaft Der Oesterreischischen Fezfabriken. U. S. pat. 1,980,608 (No. 13, 1934).—A felt jacket for paper machine rolls comprises an inner and an outer layer of felt of fullable material, between which is an inlay composed of strong thick weft threads running circumferentially, a thin weft thread between each pair of thick thread and thin warp threads holding the weft threads together.—A.P.-C.

Method of Seaming Fourdrinier Wires. John R. Buchanan and Thomas M. Cray. U. S. pat. 1,979,063 (Oct. 30, 1934).—The joined ends of the cloth immediately adjacent to the seam are reinforced with a wire whipping, each individual stitch of which is anchored when the cloth ends are joined so that in the event of one stitch breaking the wire cannot run and only the reinforcement of the single broken stitch is lost.—A.P.-C.

Heat Recovery and Washing System for Sulphite Pulp. Jacob D. Jenssen assignor to G. D. Jenssen Co. U. S. pat. 1,978,749 (Oct. 30, 1934).—The patent provides various features in the piping and interconnection of the acid towers, acid accumulator, digesters, blow pits and pulp washers, with suitably located heaters and heat exchangers, which permit of more efficient utilization and recovery of heat.—A.P.-C.

Production of Uniform Sheets of Fibrous Materials. J. M. Voith & Co. Fr. pat. 768,222. — Energetic and thorough agitation of the stock to produce practically uniform distribution of the fibers in all directions is obtained by delivering the stock through a relatively narrow slot so as to impinge directly on to the wire at an angle of approximately 40° thereto.—A.P.-C.

Process and Apparatus for Dehydrating Sheets of Cellulosic or Other Fibrous Materials. Carl Fridolf Brodin. Fr. pat. 766,218.—The process consists essentially in subjecting the sheet to the action of pressure or suction which acts through the medium of an interposed layer consisting partly or wholly of sponge rubber (either in the form of a roll jacket or of an endless belt which may or may not be reinforced by wire fabric). The sponge rubber may be in direct contact with the sheet, or a felt may be interposed between the two.—A.P.C.

Paper Machine. William H. Millspaugh. Fr. pat. 766,920.—In the Millspaugh suction forming cylinder paper machine, the pistons closing the ends of the suction boxes in the cylinder are adjusted a slight distance outside the sides of the feed box. As there is a slight clearance between the latter and the cylinder, the air drawn in through this clearance prevents leakage of the stock outside and ensures that the edges of the sheet are not wetter than the rest of the sheet.—A.P.C.

Dandy Rolls. Compagnie Genérale d'Electricité. Fr. pat. 766,007.—The longitudinal wires or bars are fastened at one end to an adjustable plate, so that any elongation in the wires that occur in service is taken up either automatically or by manual adjustment.—A.P.C.

A Method for Converting Sodium Sulphide to Sodium Carbonate in the Recovery of Soda Base Sulphite Pulping Liquor

By P. S. Billington[1], G. H. Chidester[2], and C. E. Curran[3]

Abstract

A method of converting sodium sulphide present in the ash obtained from the burning of waste sulphite pulping liquor is described. The method consists of evaporation and burning of the spent liquors followed by treatment with sodium bicarbonate to convert the sulphide formed in burning to carbonate which may be used for the preparation of fresh cooking liquor. A suggested method of application together with a theoretical chemical balance of the process is presented.

In the recovery of soda from soda base sulphite cooking liquors by methods involving evaporation and burning of the liquor, varying quantities of sodium sulphide, carbonate, sulphite and sulphate are present in the ash. The ratio of these constituents depends to a large extent upon the burning conditions. When a solution of this ash is treated with sulphur dioxide the carbonate is converted to bisulphite, the sulphate is inert, and the sulphide is converted to sodium thiosulphate, polythionates, liberating free sulphur. It has been shown at the Forest Products Laboratory that these latter substances interfere with the normal cooking process by converting the bisulphite to sulphate before the pulping of the wood is complete. Hence it is essential that a satisfactory recovery method should render ineffective any sulphide which may be present.

Although many methods have been suggested for the recovery of soda from waste sulphite liquor the fact that the use of soda base liquor is apparently limited to a very few mills which can operate in conjunction with an alkaline pulping process would lead to the conclusion that none of the methods was considered sufficiently economical to warrant its universal adoption. The possibilities which present themselves for eliminating the difficulty with sulphide are the removal of the sulphide from the ash, conversion to the inert sulphate, and conversion to sulphite, hydroxide, or carbonate.

Old Methods of Sulphide Conversion

In the preparation of sodium intermediates considerable work was done during the nineteenth century on the conversion of sodium sulphide to carbonate, bicarbonate, and hydroxide. Thorpe's "Dictionary of Applied Chemistry," contains brief descriptions of many of these procedures and was the source of information here presented.

Processes for Converting Sodium Sulphide to Sodium Carbonate

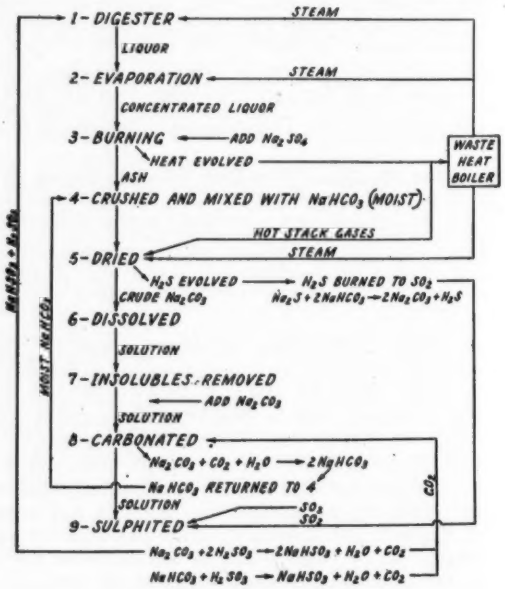
Wilson in 1840 patented a method whereby a solution of equivalent quantities of sodium sulphide and bicarbonate were evaporated to dryness, thus producing sodium carbonate. The passing of carbon dioxide into a solution of sodium sulphide was suggested as long ago as 1860 by Hunt. However, a great excess of carbon dioxide is required. Liermann, in 1878, mixed aluminum oxide with sodium sulphide and passed heated air through the mixture. Sodium aluminate was formed which was decomposed by carbon dioxide to yield sodium carbonate and aluminum hydroxide. Mathiesen and Hawliczek, in 1886, precipitated sodium bicarbonate from a solution of sodium sulphide in a 16 to 19 per cent sodium chloride solution by treatment with carbon dioxide. Ellershausen, in 1890, patented a process whereby sodium carbonate and ferric oxide were heated together to form "ferrate of soda." Sodium sulphide solutions were filtered through a layer of this material to form sodium carbonate.

Processes for Converting Sodium Sulphide to Sodium Sulphate

Hargreaves injected air into a solution of sodium sulphide thus oxidizing it to sodium thiosulphate. Further oxidation to sodium sulphate was accomplished by the use of sodium nitrate. Pauli in 1879 suggested aerating a solution of sodium sulphide in which was dissolved a soluble manganese salt. The oxidation then goes as far as the sulphate.

Processes for Converting Sodium Sulphide to Sodium Hydroxide

Merle, in 1875, destroyed the sodium sulphide electrolytically. The oxides of such metals as zinc, copper, lead,



Flow Diagram of Process

[1] Member TAPPI, Junior Chemist, Forest Products Laboratory, (Maintained at Madison, Wis., in cooperation with the University of Wisconsin), Forest Service, U. S. Dept. of Agriculture.
[2] Member TAPPI, Associate Engineer, Forest Products Laboratory.
[3] Member TAPPI, Principal Chemist, Forest Products Laboratory.

iron, and manganese have been proposed for converting sodium sulphide to the hydroxide and the corresponding metallic sulphide. The treatment of sodium sulphide with oxides of iron at red heat was suggested in 1778 but found to be unsatisfactory.

Experimental Work

Of the preceding methods, that of Wilson involving the use of sodium bicarbonate gave the most promising results. The following experiments conducted at the Forest Products Laboratory were, therefore, based on this method.

CONVERSION OF SULPHIDE TO CARBONATE

I. One kilogram of sodium bicarbonate was mixed with about 500 cc. of water. To this, 760 grams of crushed commercial sodium sulphide (60 per cent sodium sulphide) were added and the whole well mixed. On evaporation to dryness the test for sulphides was negative, sodium thiosulphate was less than 4 per cent, and sodium carbonate was 96 per cent. This residue was used to prepare liquor for the digestion designated S-36 in Table I.

II. The spent liquor from a soda base sulphite digestion was evaporated to about 55 per cent solids and burned with additional amounts of sodium sulphide and sulphate in order to yield a sufficient quantity of ash. The resulting ash contained the following amounts of the various salts:

Na_2S	25.6 per cent
Na_2CO_3	29.6 per cent
Na_2SO_4	12.8 per cent
Na_2SO_3	1.5 per cent
$Na_2S_2O_3$	.8 per cent
Insoluble	29.3 per cent

Two kilograms of the crushed ash were well mixed with 1,150 grams of sodium bicarbonate and 600 cc. water. The mixture was evaporated to dryness, dissolved in 10 liters of water, filtered, and then used for the preparation of liquor for the digestion designated S-37 in Table I.

III. Two hundred and fifty grams of sodium bicarbonate and 190 grams of commercial sodium sulphide were well mixed and placed on a 100-mesh wire screen suspended in a 4-inch pipe in such a manner that steam could be blown through the mass. The steaming was continued for about 30 minutes until tests with lead acetate paper showed an absence of hydrogen sulphide in the vapors arising from the mixture. The residue contained about 4 per cent sodium thiosulphate and 96 per cent sodium carbonate. Tests for sulphides were negative.

UTILIZATION OF THE TREATED ASH

The liquor for digestion S-36 (Table I) was prepared from equivalent quantities of sodium sulphide and bicarbonate; that for S-37 by treating incinerated waste liquor with a calculated quantity of sodium bicarbonate.

The equivalent of 12 pounds of oven-dry western hemlock and 8 gallons of liquor were used for each digestion. The total sulphur dioxide content was 5.0 per cent, and the combined sulphur dioxide 1.2 and 1.5 per cent, respectively for each digestion. The cooking schedule consisted of a 2-hour penetration period to 110 deg. C. followed by a straight line rise to 148 deg. C. in 8 hours with a maximum pressure of 75 pounds. The yield, color, and strength of the pulps are indicated in Table I.

The digestions proceeded in a normal manner, and the pulps were in every respect as satisfactory as those cooked in a liquor prepared from commercial caustic soda and sulphur dioxide.

Application of the Conversion Method

The following shows the manner in which the foregoing conversion method might be used in a recovery process.

Step 1.—The spent liquors are evaporated being 55 percent total solids, the heat for the evaporation being obtained from the next step.

Step 2.—The concentrated liquors are sprayed into a furnace where they are burned. If a waste heat boiler is provided the heat produced should be sufficient to evaporate the spent liquors in step 1, to furnish heat for step 4, and possibly to furnish enough steam for cooking.

The ash consists essentially of the sulphate, sulphite, sulphide, and carbonate of sodium, the quantitative composition depending to a large extent on the furnace conditions. If these conditions are similar to those obtaining in kraft liquor recovery the composition of the ash will be quite similar.

Losses of sodium may be replaced with sodium sulphate or sodium carbonate. If sulphate is used it would be introduced into the furnace, while if the carbonate is used it is perhaps better added in step 5.

Step 3.—After solidification the ash is ground or crushed to such a size that it will pass a four-mesh screen. A coarser ash tends to inhibit the reactions in step 4. Either during or immediately following the crushing the ash is mixed with sodium bicarbonate in sufficient quantity to satisfy the equation

$$Na_2S + 2NaHCO_3 = 2Na_2CO_3 + H_2S$$

The bicarbonate used is prepared in step 6. It should contain about 50 per cent moisture to react most favorably with the sulphide. Less moisture requires either a higher temperature in step 4 or a higher ratio of bicarbonate to sulphide. Moisture contents in excess of 50 per cent do not facilitate the reaction and require more heat to evaporate the water.

Step 4.—After thorough mixing of the bicarbonate and ash the mixture is either heated at a temperature above 200 deg. C. or treated directly with steam at atmospheric pressure in a suitable apparatus. The reaction which occurs here is described in step 3. The hydrogen sulphide eliminated may be conducted to the sulphur burner and burned to produce sulphur dioxide to be used in step 7.

Step 5.—The mixture, obtained from the heat or steam treatment, is dissolved in the minimum quantity of water and the insoluble materials separated by settling or filtration. The clear solution consists essentially of sodium carbonate. If sodium carbonate is to be used to replace losses of soda it can well be added at this point.

TABLE I.—CONDITIONS AND RESULTS OF DIGESTIONS WITH ACID PREPARED FROM RECOVERED CHEMICALS. TOTAL SULPHUR DIOXIDE, 5.0 PER CENT

Digestion, Number	Combined SO_2, Per cent	Duration, Hours	Yields: Screened pulp, Per cent	Yields: Screenings, Per cent	Bleach requirement, per cent	Color of unbleached pulp: Red	Green	Blue	Bursting strength: Minutes in pebbled mill: 0	20	40	60	80	100	Tearing strength: Minutes in pebble mill: 0	20	40	60	80	100	Double folds: Minutes in pebble mill: 0	20	40	60	80	100
						Ives parts			Pts./lb./ream (24x36—500)						Gms./lb./ream (24x36—500)											
S-36	1.2	8	52.1	0.24	21	68	56	51	0.35	0.67	1.03	1.06	1.24	1.03	2.09	2.55	2.20	1.92	1.40	1.43	16	284	2036	2045	3540	2071
S-37	1.5	10	49.0	.10	12	64	55	53	.35	.72	1.06	1.13	1.25	1.19	2.45	3.32	2.56	2.22	1.77	1.58	15	178	1862	3109	3284	2606

Step 6.—Carbon dioxide is passed into the concentrated solution of sodium carbonate and a sufficient quantity of the precipitated bicarbonate removed to be used in step 3. The carbon dioxide is obtained from step 7.

Step 7.—The solution of carbonate and the excess bicarbonate is diluted and sulphited, the sulphur dioxide being obtained in the usual manner. During sulphiting, carbon dioxide is freed according to the equation

$$Na_2CO_3 + 2H_2O + 2SO_2 = 2NaHSO_3 + H_2O + CO_2$$

and is utilized in step 6.

Chemical Balance of Process

The following theoretical considerations are based on one kilogram of an ash of the following chemical analysis:

Na_2S	20.0 per cent
Na_2CO_3	65.0 per cent
Na_2SO_4	7.0 per cent
Na_2SO_3	1.0 per cent
$Na_2S_2O_3$	1.0 per cent
Insoluble	3.0 per cent

To satisfy the requirements of the equation

$$Na_2S + 2NaHCO_3 \longrightarrow 2Na_2CO_3 + H_2S \qquad (1)$$

431 grams of sodium bicarbonate are required to yield 544 grams sodium carbonate and 87.2 grams of hydrogen sulphide.

If the hydrogen sulphide from (1) is recovered and burned in the following manner

$$2H_2S + 3O_2 \longrightarrow 2H_2O + 2SO_2 \qquad (2)$$

there will be available 164 grams of sulphur dioxide for sulphiting later.

The composition of the treated ash will be as follows:

Na_2CO_3	90.9 per cent
Na_2SO_4	5.3 per cent
Na_2SO_3	0.76 per cent
$Na_2S_2O_3$	0.76 per cent
Insoluble	2.3 per cent

The treated ash is dissolved in the least amount of water necessary and the insolubles removed by filtration or settling. The solution is then carbonated to precipitate 431 grams of sodium bicarbonate. That this quantity of bicarbonate will be considerably less than the total amount available is seen from a theoretical consideration of the reaction expressed as $Na_2CO_3 + H_2O + CO_2 = 2NaHCO_3$ Hart, Baker and Purcell (*1*) have developed the following equation

$$\frac{x^2\ C^{1.29}}{SP\ (1-x)\ (185-t)} = 10$$

where x represents fraction of sodium as the bicarbonate; c, sodium normality; t, temperature (centigrade); s, solubility of CO_2 at t°; P, partial pressure of CO_2 in atmospheres. Although the constants are developed only for sodium normalities between 0.5 and 2.0, if the equation is assumed to hold for nearly saturated solutions of carbonate then x equals approximately 0.7.

The accuracy of this fraction (0.7) is checked fairly well by Hoffman (*2*) who reports that when a solution containing 256 grams per liter of a solute consisting essentially of 70 per cent sodium carbonate and 17 per cent sodium sulphide is carbonated, crystallization of bicarbonate occurs when from 15 to 25 per cent of the carbonate is converted to bicarbonate and may be continued until 25 per cent of the carbonate remains as such. In other words 75 per cent of the carbonate is convertible to bicarbonate; and approximately 50 per cent precipitated.

The assumption is now made that the precipitate is 100 per cent sodium bicarbonate, and that there is none in the solution. This assumption does not affect the final results of the following calculation, but merely simplifies them. The composition of the solute will now be

Na_2CO_3	91.1 per cent
Na_2SO_4	6.9 per cent
Na_2SO_3	1.0 per cent
$Na_2S_2O_3$	1.0 per cent

On sulphiting reactions occur which conform to the following equations:

$$Na_2CO_3 + 2H_2O + 2SO_2 = 2NaHSO_3 + H_2O + CO_2 \qquad (3)$$
$$Na_2SO_3 + H_2O + SO_2 = 2NaHSO_3 \qquad (4)$$

The yields will be 1,827 grams sodium bisulphite and 383 grams carbon dioxide. A total of 1,120 grams sulphur dioxide will be required. Of this, 164 grams may be recovered from the combustion of hydrogen sulphide as indicated in (2). The remainder of 955 grams will be obtained from the digester relief and the burning of sulphur.

Since 383 grams of carbon dioxide are available from equation (3), there can be prepared according to the equation

$$Na_2CO_3 + CO_2 + H_2O = 2NaHCO_3$$

when Hoffman's data is considered, 730 grams of crystallized bicarbonate, which is equivalent to converting 75 per cent of the carbonate to bicarbonate. It is obvious that there will be an excess of carbon dioxide over that necessary to prepare sufficient bicarbonate for saturating the solution and for converting the sulphide to carbonate.

The following is a summary of the chemical balance of the process.

Grams per 1,000 grams of ash

Na_2S	200 grams
Na_2CO_3	650 grams
Na_2SO_4	70 grams
Na_2SO_3	10 grams
$Na_2S_2O_3$	10 grams
Insoluble	30 grams

On treating with $NaHCO_3$

$$Na_2S + 2\ NaHCO_3 \longrightarrow 2\ Na_2CO_3 + H_2S$$

$NaHCO_3$ added	431 grams
Na_2CO_3 formed from Na_2S	544 grams
Total Na_2CO_3	1194 grams
H_2S formed	87.2 grams
Na_2SO_4	70 grams
Na_2SO_3	10 grams
$Na_2S_2O_3$	10 grams
Insoluble	30 grams

On burning the H_2S

$$H_2S + 3\ O_2 \longrightarrow 2H_2O + 2SO_2$$

SO_2 formed.....164 grams carried forward for sulphiting

On treating with CO_2

$$Na_2CO_3 + CO_2 + H_2O \longrightarrow 2NaHCO_3$$

Co_2 required	226	grams
CO_2 excess	157	grams
$NaHCO_3$ precipitated	431	grams carried back to treat Na_2S
Na_2CO_3	923	grams
Na_2SO_4	70	grams
Na_2SO_3	10	grams
$Na_2S_2O_3$	10	grams

On treating with SO_2

$$Na_2CO_3 + 2H_2O + 2SO_2 \longrightarrow 2NaHSO_3 + H_2O + CO_2$$
$$Na_2SO_3 + H_2O + SO_2 \longrightarrow 2NaHSO_3$$

SO_2 required	1120	grams
$NaHSO_3$ formed from Na_2CO_3	1810	grams
$NaHSO_3$ formed from Na_2SO_3	17	grams
Total $NaHSO_3$ formed	1827	grams
Na_2SO_4	70	grams
$Na_2S_2O_3$	10	grams
CO_2 liberated	383	grams carried back to precipitate $NaHCO_3$

Literature Cited

(1) Hart, Baker and Purcell, *Ind. Eng. Chem. 25* No. 5: 528-31 (1933).
(2) Recovery of Waste Liquors, U. S. patent 1,915,315.

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

CIGARETTE PAPER

H. H. Strauss, Indep. Hall, Bordeaux, 446 cs.; Champagne Paper Corp., Indep. Hall, St. Nazaire, 240 cs.; R. J. Reynolds Tobacco Co., Pr. Roosevelt, Havre, 38 cs.; R. J. Reynolds Tobacco Co., Manhattan, Havre, 62 cs.; H. H. Strauss, Normandie, Havre, 70 cs.

WALL PAPER

American Express Co., Pr. Roosevelt, Havre, 1 cs.; ———, Berlin, Bremen, 1 cs.; F. J. Emmerich, Samaria, Liverpool, 1 cs.; ———, Manhattan, Havre, 9 cs.

NEWS PRINT

N. Y. Evening Journal, Orla, Quebec, 5,302 rolls; Perkins Goodwin & Co., Berlin, Bremen, 453 rolls; Jay Madden Corp., Berlin, Bremen, 509 rolls; N. Y. Evening Journal, Markland, Liverpool, 284 rolls; N. Y. Tribune, Markland, Liverpool, 1,359 rolls; World Telegram, Markland, Liverpool, 586 rolls; Bridgeport Herald Corp., Markland, Liverpool, 35 rolls; Brooklyn Daily Eagle, Markland, Liverpool, 404 rolls; Gilman Paper Co., Markland, Liverpool, 220 rolls; ———, Langlebrook, Port Alfred, 576 rolls; Gilman Paper Co., Langlebrook, Port Alfred, 595 rolls; Jay Madden Corp., Scanyork, Kotka, 749 rolls; ———, Manhattan, Hamburg, 97 rolls; Jay Madden Corp., Manhattan, Hamburg, 74 rolls; Perkins Goodwin & Co., New York, Hamburg, 92 rolls; Walker Goulard Plehn Co., New York, Hamburg, 30 bls.; Bank of Montreal, Cornerbrook, Cornerbrook, 2,209 rolls; International Paper Co., Cornerbrcok, Dalhousie, 631 rolls.

PRINTING PAPER

Titan Shipping Co., Berlin, Bremen, 2 cs.; F. L. Kramer & Co., American Trader, London, 3 cs.; E. Dietzgen & Co., New York, Hamburg, 3 cs.

WRAPPING PAPER

———, Statendam, Rotterdam, 97 bls.; Scharf Bros., Black Falcon, Rotterdam, 6 cs.; S. S. Kresge & Co., Waukegan, Havre, 3 cs.

FILTER PAPER

H. Reeve Angel & Co. Inc., American Trader, London, 9 cs.

DRAWING PAPER

Winsor Newton, Inc., American Trader, London, 2 cs.

SURFACE COATED PAPER

L. A. Consmiller, Berlin, Bremen, 4 cs.; Chas. Happel, Manhattan, Hamburg, 5 cs.; Hensel Bruckman & Lorbacher, New York, Hamburg, 15 cs.; Metropolitan Importing & Manfg. Co., New York, Hamburg, 12 cs.

DECALCOMANIAS

Sellers Transportation Co., New York, Hamburg, 9 cs.

COLORED PAPER

C. F. Lamalle, H. Jaspar, Antwerp, 1 cs.

CARD BOARD

———, H. Jaspar, Antwerp, 5 cs.

MISCELLANEOUS PAPER

U. S. Envelope Co., Kiyosumi Maru, Yokohama, 13 cs.; Keuffel & Esser Co., New York, Hamburg, 20 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co. Inc., Indep. Hall, ———, 641 bls. rags; Amsinck Sonne & Co. Inc., Indep. Hall, St. Nazaire, 302 bls. rags; S. Birkenstein & Sons, Exporter, Barcelona, 154 bls. rags; ———, Exporter, Barcelona, 295 bls. rags; ———, Exporter, Barcelona, 156 bls. cotton waste; E. J. Keller Co. Inc., Statendam, ———, 138 bls. rags; ———, Statendam, Rotterdam, 104 bls. rags; Castle & Overton, Inc., Statendam, Rotterdam, 55 bls. rags; Bond Bros. & Co., Tai Shan, Kobe, 125 bls. cotton waste; Manufacturers Trust Co., Black Falcon, Antwerp, 61 bls. jutecard waste; Royal Manfg. Co., Black Falcon, Antwerp, 82 bls. cotton waste; ———, Exeter, Alexandria, 131 bls. rags; P. Berlowitz, Exeter, Alexandria, 89 bls. rags; E. J. Keller Co. Inc., Exeter, ——— 28 bls. rags; Chase National Bank, Hakonesan Maru, Kobe, 30 bls. rags; Banco Coml. Italiane Trust Co., New York, Hamburg, 115 bls. rags; Chase National Bank, New York, Hamburg, 16 bls. rags; Royal Manfg. Co., Waukegan, Dunkirk, 48 bls. cotton waste; E. J. Keller Co. Inc., Artigas, ———, 68 bls. bagging; A. W. Fenton, Inc., Artigas, Manchester, 39 bls. bagging, ———, Artigas, Manchester, 30 bls. cotton waste; F. Stern, Black Osprey, Rotterdam, 49 bls. rags.

OLD ROPE

Chase National Bank, Statendam, Rotterdam, 94 coils; ———, Waukegan, Havre, 76 rolls.

CHINA CLAY

Orbis Products Trading Co., Samaria, Liverpool, 224 bags; C. T. Wilson Co. Inc., Samaria, Liverpool, 50 casks.

WOOD PULP

———, Pr. Roosevelt, Hamburg, 265 bls. wood pulp, 28 tons; Bulkley Dunton & Co., Dalhem, ———, 2,100 bls. wood pulp, 355 tons; Bulkley Dunton & Co., Dalhem, ———, 4,000 bls. chemical pulp, 812 tons; Bulkley Dunton & Co., Dalhem, ——— 300 bls. sulphate, 50 tons; Bulkley Dunton & Co., Dalhem, ——— 150 bls. knotter pulp, 25 tons; Bulkley Dunton & Co., Dalhem, ——— 875 bls. sulphite, 177 tons; Bulkley Dunton & Co., Dalhem. ———, 1,250 bls. sulphate, 254 tons; J. Andersen & Co., Dalhem,

Soderhamn, 125 bls. sulphite, 25 tons; Johaneson Wales & Sparre, Inc., Dalhem Sundsvall, 1,253 bls. sulphite, 242 tons; Johaneson Wales & Sparre, Inc., Dalhem, Sundsvall, 150 bls. sulphate, 25 tons; ———, Dalhem, Hernosand, 1,200 bls. sulphite, 200 tons; ———, Dalhem, Hernosand, 900 bls. sulphate, 150 tons; 2nd Natl. Bank of Boston, Dalhem, Hernosand, 1,064 bls. sulphate, 177 tons; 2nd Natl. Bank of Boston, Dalhem, Hernosand, 2,000 bls. sulphite, 321 tons; Chemical Bank Trust Co., Fred VIII, Oslo, 325 bls. sulphite; The Borregaard Co. Inc., Fred VIII, Oslo, 90 bls. sulphate, 15 tons; Lagerloef Trading Co., Scanyork Helsingfors, 130 bls. mechanical pulp, 26 tons; Lagerloef Trading Co., Scanyork, Wiborg, 1,304 bls. sulphate, 234 tons; Lagerloef Trading Co., Scanyork, Wiborg, 850 bls. sulphite, 163 tons; Castle & Overton, Inc., Scanyork, Wiborg, 1,444 bls. wood pulp, 283 tons; Lagerloef Trading Co., Scanyork, Kotka, 148 bls. sulphite, 25 tons; Perkins Goodwin & Co., Scanyork, Gdynia, 310 bls. wood pulp, 47 tons; Castle & Overton, Inc., New York, Hamburg, 795 bls. wood pulp, 159 tons.

WOOD PULP BOARDS

Jay Madden Corp., Scanyork, Wiborg, 16 bls.; Jay Madden Corp., Scanyork, Kotka, 71 bls., 140 rolls.

ALBANY IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

International Paper Co., Vestland, Newcastle, N. S., 1,400 cords pulpwood; Johaneson Wales & Sparre, Inc., Dalhem, Sundsvall, 775 bls. sulphite, 142 tons; Johaneson Wales & Sparre, Inc., Dalhem, Sundsvall, 300 bls. chemical pulp, 60 tons; Bank of N. Y. Trust Co., Dalhem, Hernosand, 5,472 bls. sulphate, 912 tons; Bulkley Dunton & Co., Dalhem, ———, 500 bls. sulphite, 100 tons.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

Elliott Addressing Machine Co., Tai Shan, Yokohama, 7 cs. paper; American Express Co., Black Falcon, Antwerp, 152 rolls wrapping paper; Royal Manfg. Co., Black Falcon, Antwerp, 179 bls. cotton waste; ———, Black Falcon, Antwerp, 18 bls. rags International Purchasing Co., Black Falcon, Rotterdam, 151 coils old rope; ———, Samaria, Liverpool, 5 bls. rags; ———, Samaria, Liverpool, 350 bags hide cuttings; G. F. Malcolm, Inc., Samaria, Liverpool, 21 cs. tissue paper; Brown Bros. Harriman & Co., Samaria, Liverpool, 29 bls. cotton waste; E. J. Keller Co. Inc., Pr. Garfield, ———, 102 bls. paper stock; Gottesman & Co., Inc., Kelkheim, Sweden, 250 bls. wood pulp; Gottesman & Co., Inc., Malaren, Sweden, 3,115 bls. wood pulp; Parsons & Whittemore Inc., Frankwald, ———, 375 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

Gottesman & Co., Inc., Kelkheim, Sweden, 1,000 bls. wood pulp; Gottesman & Co., Inc., Malaren, Sweden, 2,675 bls. wood pulp.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

Castle & Overton, Inc., Indep. Hall, Bordeaux, 440 bls. rags; Castle & Overton, Inc., Indep. Hall. St. Nazaire, 460 bls. rags; Amsinck Sonne & Co. Inc., Indep. Hall, St. Nazaire, 318 bls. rags; Lang Co., Indep. Hall, St. Nazaire, 181 bls. rags; E. J. Keller Co. Inc., Indep. Hall, ———, 176 bls rags; E. J. Keller Co. Inc., Exporter, ———, 94 bls. rags; National Vulcanized Fibre Co., Exporter, Marseilles, 43 bls. rags; Castle & Overton, Inc., Exporter, Marseilles, 83 bls. rags; H. G. Lichtenstein, Exporter, Marseilles, 246 bls. rags; Mead Sales Co. Inc., Dalhem, Sundsvall, 3,000 bls. sulphite, 500 tons; Perkins Goodwin & Co., Dalhem, Sundsvall, 537 rolls newsprint; Johaneson Wales & Sparre, Inc., Dalhem, Sundsvall, 180 bls. sulphite, 30 tons; Johaneson Wales & Sparre, Inc., Dalhem, Sundsvall, 300 bls. sulphate, 60 tons; Bulkley Dunton & Co., Dalhem, ———, 750 bls. wood pulp, 152 tons; E. J. Keller Co. Inc., Examiner, ———, 90 bls. rags; F. Weber & Co., Black Falcon, Antwerp, 4 cs. drawing paper; Philadelphia Natl. Bank, Black Falcon, Antwerp, 141 bls. rags; Castle & Overton, Inc., Black Falcon, Antwerp, 249 bls. rags; ———, Black Falcon, Antwerp, 176 bls. rags; Chase National Bank, Black Falcon, Rotterdam, 112 bls. rags; ———, Black Falcon, Antwerp, 411 bls. rags; E. J. Keller Co. Inc., Black Falcon, ———, 446 bls. rags; Perkins Goodwin & Co., Scanyork, Stockholm, 600 bls. sulphite, 101 tons; Lagerloef Trading Co., Scanyork, Kotka, 177 bls. sulphite, 30 tons; Lagerloef Trading Co., Scanyork, Kotka, 410 bls. pulp boards, 57 tons; H. Reeve Angel & Co. Inc., Scanyork, Kotka, 56 rolls newsprint; J. W. Hampton Jr. & Co., Scanyork, Kotka, 154 rolls newsprint; Perkins Goodwin & Co., Scanyork, Gdynia, 1,400 bls. wood pulp, 216 tons; N. Schwab & Sons Inc., Artigas, Manchester, 30 bls. cotton waste; J. A. Steer & Co., Artigas, Liverpool, 98 coils old rope; Philadelphia National Bank, Artigas, Liverpool, 30 bls. bagging; Gottesman & Co. Inc., Stureholm, Sweden, 7,225 bls. wood pulp.

WILMINGTON IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

Lagerloef Trading Co., Scanyork, Wiborg, 5,135 bls. sulphite, 1,027 tons.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

Congoleum Nairn Co., Indep. Hall, Bordeaux, 1,109 bls. rags; Congoleum Nairn Co., Indep. Hall, St. Nazaire, 386 bls. rags; National City Bank, Indep. Hall. St. Nazaire, 188 bls. rags; Congoleum Nairn Co., Exporter, Marseilles, 215 bls. rags; Congoleum Nairn Co., Waukegan, Havre, 578 bls. rags; ———, Artigas, Manchester, 8 bls. new cuttings; Castle & Overton, Inc., Black Osprey, Rotterdam, 575 bls. wood pulp, 115 tons; Congoleum Nairn Co., Black Osprey, Rotterdam, 109 bls. rags; Parsons & Whittemore, Inc., City of Baltimore, ———, 400 bls. wood pulp; Parsons & Whittemore, Inc., City of Havre, ———, 1,000 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

Loumar Textile By-Products Co., Artigas, Manchester, 152 bls. bagging; E. Butterworth & Co. Inc., Artigas, Manchester, 143 bls. bagging; Irving Trust Co., Artigas, Manchester, 118 bls. bagging.

NEW ORLEANS IMPORTS

WEEK ENDING SEPTEMBER 7, 1935

E. J. Keller Co. Inc., Cody, ———, 364 bls. paper stock; Parsons & Whittemore, Inc., Chemnitz, ———, 1,100 bls. wood pulp.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, September 11, 1935.

Some improvement transpired in the local paper market during the past week. Demand for the various grades of paper was slightly better. There is much talk of higher quotations in the near future, due to rising costs of raw materials, etc. Sales forces of the leading paper houses continue optimistic.

The newsprint paper market is practically unchanged, although sentiment is improving. Production in the United States, Canada and Newfoundland is proceeding in sufficient volume to take care of current requirements. Advertising lineage and circulations are ahead of last year's record.

Business in the fine paper market is well sustained, with book, cover, writing and ledger papers moving freely. Prices are steady to firm. Tissues are going forward in good volume. The coarse paper market is sharing the general improvement and demand for kraft wrapping paper is expanding. The paper board market is gradually becoming more active.

Mechanical Pulp

The ground wood pulp market continues quiet. Manufacturing operations in the United States, Canada and abroad are still keyed to consumption with the result that stocks at the pulp mills are not excessive, and the industry is in a fairly sound statistical position. Prices are generally holding to schedule.

Chemical Pulp

Conditions in the chemical pulp market are fairly satisfactory. Kraft pulp, in particular, continues to display strength, with offerings limited and quotations firm. Bleached and unbleached sulphites are also holding up as well as expected, while other grades of chemical pulp are steady.

Old Rope and Bagging

The old rope market is listless. Demand for domestic and foreign old rope is restricted. Small mixed rope is moving slowly. Old rope prices are fairly steady. No radical changes have transpired in the bagging market. Scrap and gunny bagging are marking time. Roofing bagging continues firm.

Rags

Trading in the domestic rag market is fairly brisk. New cotton rags are exhibiting a strong undertone, with demand for No. 1 white shirt cuttings especially strong, both for domestic and foreign consumption. Inquiries for future account are fairly numerous. Roofing rags are in excellent request.

Waste Paper

The paper stock market is arousing more attention from the paper and board mills and prices are decidedly firmer. The lower grades are particularly strong and advances have been registered. Mixed papers are now quoted at from 30 to 32½ cents and strictly folded news at from 40 to 42½ cents. The higher grades of waste paper remain unchanged.

Twine

Demand for the various varieties of twine is beginning to improve, with the most active months of the year at hand. Supplies are moving into consumption in growing volume. Quotations on all grades of hard and soft fiber twines have advanced and still higher prices are predicted for the near future.

Higher Paper Bag Prices Predicted

Cessation of price cutting in the paperbag industry, prevalent during the closing months of 1934, and the early part of this year, gives an indication of a substantially increased volume of business for the Fall at considerably higher price levels, Alexander Calder, president of the Union Bag and Paper Corporation stated Monday, in a letter to stockholders accompanying the company's income statement for the twelve months ended on June 30.

Net earnings for the period amounted to $167,388 after all charges, including Federal income and capital stock taxes and the corporation's proportion of a controlled company's operating loss, the latter totaling $21,654. Gross sales aggregated $9,582,464, and whole manufacturing profit, after all production expenses, inclusive of $215,188 for depreciation, amounted to $1,750,518. Sales, administrative and general expenses for the year totaled $1,562,747.

"Present indications are that the corner has been turned, and that we already are embarked upon a materially improved market," Mr. Calder remarked. He reported that the corporation's new pulp and paper mill and bag factory at Savannah, Ga., were progressing satisfactorily.

International Buys Defiance Mill

NIAGARA FALLS, N. Y., September 9, 1935.—Thomas N. Uptegraff, president of the Defiance Paper Company, announced last week the sale of its paper and pulp machinery and wrapping paper business to the International Paper Company. He did not reveal the purchase price. At the same time, Mr. Uptegraff said the Niagara Wall Paper Company, a subsidiary of the Defiance Paper Company, had contracted with International to fill its wall paper requirements.

A. H. Campbell Elected Vice President

At a recent meeting of the board of directors of the International Paper Company, Alexander H. Campbell was elected a vice-president of the company.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, September 11, 1935.

BLANC FIXE.—Conditions in the blanc fixe market are fairly satisfactory. Prices remain unchanged. The pulp is quoted at from $42.50 to $45 per ton, in bulk; while the powder is selling at from 3½ to 3¾ cents per pound, in barrels, at works.

BLEACHING POWDER.—The bleaching powder market is fairly active. Shipments against contract are moving in good volume. Prices are holding to formerly quoted levels. Bleaching powder is selling at from $1.90 to $2.15 per 100 pounds, in drums, at works.

CASEIN.—The casein market is firm. Domestic standard ground is quoted at 11 and finely ground at 11½; French standard ground at 12¼ and finely ground at 12¾; Argentine standard ground at 12½ and finely ground at 13 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is exhibiting a strong undertone. Prices are holding to schedule. Solid caustic soda is quoted at from $2.60 to $3.10; while the flake and ground are selling at from $3 to $3.05 per 100 pounds, in drums, at works.

CHINA CLAY.—Demand for china clay is fairly persistent. The contract movement is well up to average. Imported china clay is quoted at from $13.50 to $21 per ton, ship side; while domestic paper making clay is selling at from $6.50 to $12 per ton, at mine.

CHLORINE.—The chlorine market is displaying strength. Demand from the paper mills is fairly brisk. Contract shipments are moving freely. Chlorine is quoted at from $2 to $2.40 per 100 pounds, in tanks, or multi-unit cars, in ton lots, or over, at works.

ROSIN.—Some improvement transpired in the rosin market. Paper making gum rosin is quoted at $4.10 and wood rosin at $4.20 per 280 pounds, gross weight, in barrels, at Savannah. Seventy per cent rosin size at $2.48 per 100 pounds, in tank cars, at works.

SALT CAKE.—The salt cake market is stronger. Prices are holding to schedule. Salt cake is quoted at from $12 to $13; and chrome salt cake at from $11 to $12 per ton, at works. Imported salt cake is still selling at from $12 to $13 per ton, ship side.

SODA ASH.—Paper mill demand for soda ash is more active than of late. The contract movement is fairly heavy for the season. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1.05; in bags, $1.20; and in barrels, $1.50.

STARCH.—The position of the starch market is practically unchanged. Supplies are moving into consumption in fairly good volume. Special paper making starch is quoted at $3.59 per 100 pounds, in bags; and at $3.86 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Steadiness prevails in the sulphate of alumina market. The contract movement is normal. Commercial grades are quoted at from $1.35 to $1.50; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market is steady. Sulphur is quoted at $18 per long ton on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton on any smaller quantity over that period. On spot and near by car loads the quotation is $21 per ton.

TALC.—Sentiment in the talc market is improving with the end of the midsummer period. Prices are steady and unchanged. Domestic talc is quoted at from $16 to $18 per ton, at eastern mines; while imported talc is selling at from $23 to $30 per ton, on dock.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	6.50	@	—
Bonds	6.00	@	—
Index	6.00	@	—
Writings—			
Extra Superfine	6.50	@	—
Superfine	6.25	@	—
Tub sized	5.75	@	—
Engine sized	5.50	@	—
Book, Cased—			
S. & S. C.	5.35	@	5.75
S. & S. C. Litho	5.60	@	6.00
M. F.	5.10	@	5.50
Coated and Enamel	5.90	@	6.55
Coated Litho	5.90	@	6.55
Tissues—Per Ream—			
White No. 1	.82½	@	.85
White No. 2	.67½	@	—
Anti-Tarnish M. G. only	1.00	@	—
Colored	.85	@	—
Kraft	.70	@	—
Manila	.67½	@	.70
Manila—			
No. 1 Jute	9.00	@	9.25
No. 2 Jute	7.75	@	8.50
No. 1 Wood	4.00	@	5.25
No. 2 Wood	3.50	@	4.00
Butchers	4.00	@	4.50
Fibre Papers—			
No. 1 Fibre	4.25	@	5.50
No. 2 Fibre	4.00	@	4.75
Common Bogus	1.50	@	3.00
Screenings	2.50	@	3.50
Glassine—			
Bleached	.11	@	—
Unbleached	.09	@	—

(The following Quotations are Delivered New York)

News, per ton—			
Roll, contract	40.00	@	—
Rolls, spot	40.00	@	—
Sheets	45.00	@	—
Kraft—			
No. 1 Northern	4.12½	@	4.75
Standard	4.00	@	—
Southern	3.87½	@	—
Boards—per ton—			
News	32.50	@	35.00
Chip	32.50	@	35.00
Sgl. Mla. Ll. Chip	45.00	@	47.50
Jute Lined Chip	45.00	@	47.50
White Patent Coated	55.00	@	57.50
Binders Boards	67.00	@	75.00

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	21.00	@	22.00
Dry	21.00	@	22.00

(F. o. b. Mill)

No. 1 Domestic and Canadian	18.00	@	24.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Division 1	2.60	@	—*
Division 2	2.55	@	—*
Division 3	2.50	@	—*
Prime Qualities—			
Class 1. All Prime Easy Bleaching	2.05	@	—*
Other Than Easy Bleaching—			
Class 2. Higher than Standard	2.00	@	—*
Class 3, Standard	1.95	@	—*
Class 4, Lower than Standard	1.90	@	—*

(On Dock, Atlantic Ports)

Kraft No. 1	1.70	@	1.80
Kraft No. 2	1.50	@	1.60

(F. o. b. Pulp Mill)

Kraft Domestic	1.70	@	2.35

(Delivered)

Soda Bleached	2.50	@	—

* Add 60 Cents per short ton, dock charges, for Albany; $2.00 for Lake Ports East and $3.00 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.00	@	6.25
Silesias No. 1	4.50	@	4.75
New Unbleached	6.50	@	6.75
New Soft Blacks	3.00	@	3.25
Blue Overall	4.25	@	4.50
Fancy	2.50	@	2.75
Washables	1.75	@	2.00
Mixed Khaki Cuttings	3.00	@	3.25
O. D. Khaki Cuttings	3.75	@	4.00
Men's Corduroy	1.50	@	1.75
New Mixed Blacks	2.50	@	2.75

Old Rags

White, No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	@	3.25
White, No. 2—			
Repacked	1.75	@	2.25
Miscellaneous	1.50	@	1.75
Thirds and Blues—			
Repacked	1.50	@	1.75
Miscellaneous	1.25	@	1.50
Black Stockings	2.50	@	3.00
Roofing Rags—			
No. 1	1.55	@	1.60
No. 2	1.30	@	1.35
No. 3	.95	@	1.00
No. 4	.95	@	1.00
No. 5A	.90	@	1.00

Foreign Rags

New Rags

New Dark Cuttings	1.75	@	1.85
New Mixed Cuttings	1.80	@	1.90
New Light Silesias	3.75	@	4.00
Light Flannelettes	3.75	@	4.00
Unbleached Cuttings	6.50	@	6.75
New White Cuttings	6.50	@	6.75
New Light Oxfords	3.25	@	3.50
New Light Prints	2.75	@	3.00

Old Rags

No. 1 White Linens	7.50	@	8.00
No. 2 White Linens	6.50	@	7.00
No. 3 White Linens	4.50	@	5.00
No. 4 White Linens	2.25	@	2.50
No. 1 White Cotton	4.25	@	4.75
No. 2 White Cotton	3.25	@	3.75
No. 3 White Cotton	2.50	@	2.75
No. 4 White Cotton	1.90	@	2.15
Extra Light Prints	2.00	@	2.25
Ord. Light Prints	1.75	@	1.85
Med. Light Prints	1.55	@	1.65
Dutch Blue Cottons	1.75	@	1.85
French Blue Linens	2.30	@	2.40
German Blue Linens	2.15	@	2.25
German Blue Cottons	1.70	@	1.80
Checks and Blues	1.30	@	1.40
Linsey Garments	1.95	@	2.05
Dark Cottons	1.50	@	1.60
Old Shopperies	1.00	@	1.05
New Shopperies	.95	@	1.05
French Blues	1.70	@	1.80

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—			
Foreign	1.70	@	1.80
Domestic	1.50	@	1.60
Wool Tares, light	1.65	@	1.70
Wool Tares, heavy	1.75	@	1.80
Bright Bagging	1.65	@	1.70
Manila Rope—			
Foreign	1.85	@	2.00
Domestic	1.75	@	2.00
Small Mixed Rope	1.10	@	1.35
New Burlap Cut	2.00	@	2.25
Hessian Jute Threads—			
Foreign	2.60	@	2.75
Domestic	2.80	@	3.00

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	2.45	@	2.55
Ordinary Hard White No. 1	2.10	@	2.15
Hard White No. 2	1.90	@	2.00
Soft White No. 1	1.70	@	1.80
Flat Stock—			
Stitchless	.65	@	.75
Over issue Mag	.65	@	.75
Solid Flat Book	.45	@	.50
Crumpled No. 1	.35	@	.40
Solid Book Ledger	1.50	@	1.65
Ledger Stock	1.00	@	1.10
New B. B. Chips	.30	@	.35
Manilas—			
New Env. Cut	1.70	@	1.80
New Cuttings	1.35	@	1.45
Print	Nominal		
Bogus Wrapper	.40	@	.50
Container	Nominal		
Old Kraft Machine—			
Compressed bales	1.10	@	1.20
News—			
No. 1 White News	1.20	@	1.30
Strictly Overissue	.60	@	.65
Strictly Folded	.40	@	.42½
No. 1 Mixed Paper	.30	@	.32½

Sulphur

A FIRST REQUISITE

in

Paper Making

Large Production
Ample Reserves
Prompt Deliveries
Purity 99½%

TEXAS GULF SULPHUR CO.
75 E. 45th Street New York City
Mines: Gulf, Newgulf and Long Point, Texas

SCHOPPER-RIEGLER

IMPROVED ORIGINAL STANDARD FREENESS (slowness) TESTER

Human Factor Fully Eliminated

Correct Readings obtained quickly from ONE OUTLET.

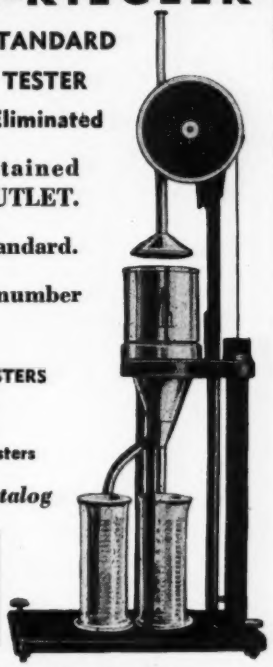
All parts calibrated to Standard.

More than double the number of all others in use.

SCHOPPER STANDARD TESTERS
Tensile Testers—Paper Scales
Folding Testers—Micrometers
Expansion Testers—Bursting Testers

Write for complete catalog

Old, inaccurate scales, micrometers and other testers made over like new.



TESTING MACHINES, Inc.
462 W. 34th St. New York, N. Y.

THE DRAPER FELTS

All kinds and styles of Felts for all kinds and styles of Papers.

Write us about your Felt problems and let us help you reduce your Felt Costs—we will call anywhere at any time.

DRAPER BROS. COMPANY
CANTON, MASS.

Woolen manufacturers since 1856

ANILINE PRINTING

WE OFFER DYBRYTE COLORS

which are specially prepared colors suitable for printing on

Kraft
Glassine
Waxed Papers
and
Cellophane

SAMPLES ON REQUEST.

HELLER & MERZ
DIVISION OF THE CALCO CHEMICAL CO., INC.
90 West Street, New York, N. Y.
BOSTON 35 Hartford St. CHICAGO 146 W. Kinzie St. SPRINGFIELD, MASS. 40 Albert St.
PHILADELPHIA—South St. and Delaware Ave.

Factories:
BOUND BROOK, N. J. and NEWARK, N. J.

A Division of American Cyanamid Company

Twines
(F. o. b. Mill)

Coarse Polished—			
India	.11¼	@	.14¼
Belg. White Hemp	.12¼	@	.16¼
India Compress	.12¼	@	.12¾
Fine Polished—			
Fine India	.19½	@	.21½
Special	.17½	@	.49½
B. C.	.26	@	.28
Unpolished—			
Box	.10½	@	.11
Paper Makers	.07½	@	.12½
Tube Rope	.08½	@	.13½
Wall Paper	.09½	@	.13
Wrapping	.13	@	.19
Special	.13	@	.13½
Soft Fiber Rope	.10¾	@	.11¼

CHICAGO

Paper
(F. o. b. Mill)

Rag Bond	.12	@	.50
Water Marked Sulphite Bond	.06¼	@	.11
Sulphite Bond	.05½	@	.11
Superfine Writing	.18	@	.24
No. 1 M. F. Book	.06½	@	.07¼
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07	@	.12
Coated Label	.07	@	.08½
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.03¼	@	.03¾
No. 1 Kraft	4.75	@	5.00
Southern Kraft	3.88	@	4.25
No. 2 Kraft	3.88	@	4.25
Wood Tag Boards	.04¼	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue	.05¾	@	.07
White Tissue	.07	@	.09

(Delivered Central Territory)

News, per ton—			
Rolls, contract	41.00	@	—
Sheets, open	46.00	@	48.50
Boards, per ton—			
Plain Chip	46.50	@	—
Solid News	50.00	@	—
Manila Lined Chip	55.00	@	—
Patent Coated	65.00	@	—
Container Lined—			
85 Test, per 1000 sq. ft.			1.70
100 Test, per 1000 sq. ft.			1.85

Old Papers
(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings	1.70	@	2.00
No. 1 Hard White	1.40	@	1.65
No. 1 Soft White	1.25	@	1.50
Ledger & Writings	.70	@	.80
Solid Books	.60	@	.70
Blanks	1.00	@	1.05
Krafts	.80	@	.90
New Kraft Cuts	1.20	@	1.30
Manila Env. Cuts	1.25	@	1.30
Ex. No. 1 Manila	.90	@	1.00
Print Manila	.40	@	.50
Overissue News	.40	@	.45
Old Newspapers—			
No. 1	.30	@	.35
No. 1 Mixed Paper	.25	@	.30
Roofing Stocks—			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper
(Delivered Philadelphia)

Bonds	.05-9/10	@	.38
Ledgers	.06-9/10	@	.40
Writings—			
Fine No. 3	.05	@	.06
Superfine	.10	@	.12
Extra Fine	.15	@	.26
Fine	.15	@	.26
Fine, No. 2	.10	@	.25
Book, M. F.	.05¼	@	.06¼
Book, S. S. & C.	.05½	@	.07½
Book, Coated	.06½	@	.09
Coated Lithograph	.06¾	@	.08½
Label	.07	@	.11
No. 1 Jute Manila	6.25	@	—
Manila Sul., No. 1	5.25	@	—
Manila No. 2	3.75	@	—
No. 1 Kraft	5.00	@	—
Southern Kraft	4.75	@	—
Common Bogus	.03	@	—
News Print Rolls	40.00	@	—
Straw Board	40.00	@	45.00
News Board	40.00	@	—
Chip Board	37.50	@	—
Wood Pulp Board	70.00	@	85.00
Binder Boards—			
No. 1, per ton	75.00	@	80.00
No. 2, per ton	70.00	@	75.00
Carload lots	65.00	@	70.00
Tarred Felts—			
Regular	52.25	@	54.25
Slaters (per roll)	.84	@	.94
Best Tarred, 1-ply (per roll)	1.95	@	2.10
Best Tarred, 2-ply (per roll)	1.40	@	1.75
Best Tarred, 3 ply	2.00	@	2.25

Domestic Rags (New)
(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.03½	@	.04
New White, No. 2	.02½	@	.04
Light Silesias	.02½	@	.03
Silesias, No. 1	.03	@	.03½
Black Silesias, soft	.02½	@	.03
New Unbleached	.05	@	.05½
Washable, No. 1	.01½	@	.02
Blue Overall	.03½	@	.04
Cottons—According to grades—			
Washable, No. 2	.02½	@	.03
New Blue	.01½	@	.03
Fancy	.01½	@	.03
New Black Soft	.02	@	.04
New Light Seconds	.01½	@	.02
New Dark Seconds	1.50	@	1.75
Khaki Cuttings—			
No. 1 O. D.	.03	@	.04
No. 2 Mixed	.03	@	.04
Corduroy	.02	@	.03
New Canvas	.03½	@	.04½
New Black Mixed	.02½	@	.03½

Domestic Rags (Old)

White No. 1—			
Repacked	2.50	@	3.50
Miscellaneous	1.75	@	2.25
M. G.	3.00	@	3.75
Thirds and Blues—			
Miscellaneous	1.00	@	1.50
Repacked	1.50	@	2.00
Black Stockings (Export)	2.00	@	3.50
Roofing Stock—			
Foreign No. 1	.50	@	.75
Repacked	.70	@	.85

Bagging
(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	1.25	@	1.50
Domestic	1.50	@	1.75
Manila Rope	2.00	@	2.25
Sisal Rope	1.25	@	1.50
Mixed Rope	1.00	@	1.10
Scrap Burlaps—			
No. 1	1.25	@	1.50
No. 2	.80	@	1.00
Wool Tares, heavy	2.75	@	—
Mixed Strings	1.15	@	1.25
No. 1 New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.00	@	2.25

Old Papers
(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.25	@	2.30
No. 2 Hard White	1.90	@	2.00
No. 1 Soft White	1.80	@	1.85
No. 2 Soft White	1.25	@	1.30
No. 1 Mixed	—	@	.75
Solid Ledger Stock	1.50	@	1.60
Writing Paper	1.00	@	1.10
No. 1 Books, heavy	.55	@	.60
No. 1 New Manila	1.35	@	1.40
Print Manila	.50	@	.60
Container Manila	.45	@	.50
Old Kraft	1.00	@	—
No. 1 Mixed Paper	.25	@	.30
Straw Board Chip	.30	@	—
Binders Board Chip	.30	@	—
Corrugated Board	.50	@	—
Overissue News	.50	@	—
Old Newspapers	.30	@	—

BOSTON

Paper
(F. o. b. Mill)

Ledgers—			
Sulphite	.06	@	.12½
Rag Content	.12	@	.30
All Rag	.36	@	.52½
Bonds—			
Sulphite	.07¾	@	.11
Rag Content	.12	@	.30
All Rag	.36	@	.65
Writings	.06½	@	.20
Superfines	.11	@	.31
Book, Super	.06	@	.09
Book, M. F.	.05½	@	.08½
Book, Coated	.08½	@	.18
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.04¾	@	.05
No. 2 Kraft	.04½	@	.04¾
(F. o. b. Boston)			
Southern Kraft	.03¾	@	.04¾
(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots)			
Common Bogus	.02	@	.02¾
(Delivered New England points)			
News Print Rolls	39.50	@	—
Straw Board, rolls	.009	—	@35.00
Straw Board in Sheets, basis 35s to 70s	—		@40.00
Filled News Board	40.00		@45.00
Chip Board	37.50		@40.00
Chip Board (Creasing)	37.50		@40.00
Single Manila Lined Chip	47.50		@52.50
Single White, Patent Coated News Board (Bender)	55.00		@65.00
Wood Pulp Board	70.00		@75.00
Binder Boards (Standard Grade)	67.00		@75.00

Old Papers
(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.00	@	2.20
No. 1 Soft White	1.75	@	1.90
No. 2 Mixed	.75	@	.80
Solid Ledger Books	1.40	@	1.50
Overissue Ledger Stock	1.15	@	1.30
Mixed Ledgers	.85	@	.90
No. 1 Books, heavy	.55	@	.65
No. 1 Books, light	.50	@	.60
Crumpled Stitchless Book Stock	.50	@	.60
Manila Env. Cuttings	1.30	@	1.40
No. 1 Old Manila	.60	@	.65
White Blank News	1.15	@	1.20
No. 1 Kraft	1.00	@	1.05
Mixed Papers	.25	@	.30
Print Manila	.40	@	.45
Container Manilas	.27½	@	—
Old Newspapers	.27½	@	.30
Overissue News	—	@	.35
Box Board Chips	—	@	.25
Corrugated Boxes	.35	@	.37½
Screening Wrappers	.40	@	.45

Bagging
(F. o. b. Boston)

Manila Rope—			
Foreign	1.80	@	1.90
Domestic	1.50	@	1.75
Transmission Rope	.90	@	1.00
Jute Rope	1.50	@	1.60
Jute Carpet Threads	.65	@	.70
Gunny No. 1—			
Foreign	1.85	@	—
Domestic	1.50	@	—
Bleachery Burlap	4.00	@	4.50
Scrap Burlap—			
Foreign	1.75	@	1.85
Domestic	1.60	@	—
Scrap Sisal	1.30	@	1.35
Scrap Sisal for Shredding	1.35	@	1.50
Wool Tares, heavy	1.75	@	1.85
New Burlap Cuttings	1.75	@	1.90
Australian Wool Pouches	2.50	@	2.75
Heavy Baling Bagging	1.75	@	2.00
Paper Mill Bagging	1.25	@	—
Bagging No. 2	.90	@	.95

Domestic Rags (New)
(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.01¼	@	.02
New White No. 1	.06	@	.06¼
New White No. 2	.04	@	.04¼
Silesias No. 1	.04¼	@	.04½
New Black Silesias	.02½	@	.03
Soft Unbleached	.06½	@	.06¾
Blue Cheviot	—	@	4.65
Fancy	.0195	@	.021
Washable	.0165	@	.0170
Cottons—According to grades—			
Blue Overalls	.04½	@	.04¾
New Black, soft	.04	@	.04¾
Khaki Cuttings	.03½	@	.03¾
O. D. Khaki	.03	@	.03¾
Corduroy	.01¾	@	.02
New Canvas	—	@	.05
B.V.D. Cuttings	—	@	.06¾
Paper Mill Bagging	1.10	@	1.25

Domestic Rags (Old)
(F. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	—	@	2.75
Miscellaneous	2.50	@	2.75
White No. 2—			
Repacked	1.90	@	2.00
Miscellaneous	2.00	@	2.25
Twos and Blues	1.50	@	2.00
Thirds and Blues—			
Repacked	1.37½	@	1.75
Miscellaneous	1.25	@	1.62½
Black Stockings	2.50	@	3.00
Roofing Stock—			
No. 1	1.50	@	1.60
No. 2	1.15	@	1.20
No. 3	.95	@	1.05

Foreign Rags
(F. o. b. Boston)

Dark Cottons	1.55	@	1.65
New White Shirt Cuttings	5.50	@	6.00
Dutch Blues	2.25	@	2.50
New Checks & Blues	2.50	@	3.00
Old Fustians	1.90	@	—
Old Linsey Garments	1.10	@	—
New Silesias	4.75	@	—

TORONTO

Paper
(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.11	@	—
No. 2 Sulphite	.08½	@	—
No. 1 Colored	.12	@	—
No. 2 Colored	.09	@	—
Ledgers (sulphite)—			
Ledgers, No. 1	.34½	@	—
Ledgers, No. 2	.25½	@	—
Writing	.09	@	.09½
Book—			
No. 1 M. F. (Carloads)	6.50	@	—
No. 2 M. F. (Carloads)	6.00	@	—
No. 3 M. F. (Carloads)	5.50	@	—
No. 1 S. C. (Carloads)	7.00	@	—
No. 2 S. C. (Carloads)	6.50	@	—
No. 3 S. C. (Carloads)	5.20	@	—
No. 1 Coated and Litho	12.00	@	—
No. 2 Coated and Litho	10.50	@	—
No. 3 Coated and Litho	9.50	@	—
Coated tinted	13.00	@	—
Wrapping—delivered—			
Rag Brown	4.75	@	—
White Wrap	3.50	@	—
"B" Manila	5.25	@	—
No. 1 Manila	5.40	@	—
Fiber	5.40	@	—
Kraft, M. F.	5.90	@	—
Kraft, No. 2	5.40	@	—

(F. o. b. Cars Toronto)

News, per ton—			
Rolls (contract)	39.50	@	—
Sheets	44.50	@	—

Pulp

Ground wood	27.00	@	—
Unbleached Sulphite	42.00	@	—
Book (Class 1)	58.00	@	—
Writing (Class 2)	59.00	@	—
Select (Class 3)	60.00	@	—

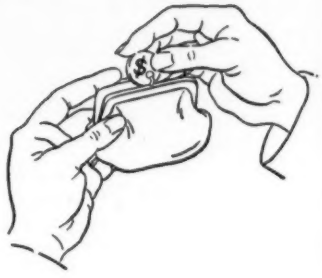
Old Waste Paper
(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	2.00	@	2.30
Soft White	1.60	@	1.90
White Blk. News	1.25	@	1.40
Book and Ledger—			
Flat Magazine and Book Stock (old)	.90	@	1.00
Light and Crumpled Book Stock	.80	@	.90
Ledgers and Writings	1.00	@	1.05
Manilas—			
New Manila Cut	1.25	@	1.40
Printed Manilas	.50	@	.60
Kraft	1.00	@	1.60
News and Scrap—			
Strictly Overissue	.60	@	—
Strictly Folded	.50	@	—
No. 1 Mixed Paper	.40	@	—

Domestic Rags
(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.06	@	—
Fancy Shirt Cuttings	.02	@	—

CHECKING LOCOMOTIVE CHARGING *secures* DEFINITE SAVING



JUST as a chain is no stronger than its weakest link, so the extent to which overall operating costs can be reduced depends in the aggregate on the reductions possible in each unit process in the mill.

Realizing this, many concerns are relying on Bristol's Instruments for obtaining an intimate knowledge of working conditions at all critical points. Only in this way can the efficiency and economy of each operation be gauged.

By using a Bristol's Recording Ammeter, Model 635, for charting the charging current to an electric locomotive, the West Virginia Pulp and Paper Co., Tyrone, Pa., have been able to secure a definite dollar and cents saving. Also they now find that more uniform operating conditions are being maintained.

Write for Catalogue 1502-A.

Bristol's Recording Ammeter, Model 635. Eight inch diameter, 24 hour chart, range 0 to 200 amperes.

THE BRISTOL COMPANY, WATERBURY, CONN.

Branch Offices in Principal Cities. Canada: The Bristol Company of Canada, Ltd., Toronto, Ontario. England: Bristol's Instrument Co., Limited, London, S. E. 16

BRISTOL'S

TRADE MARK. REG. U. S. PAT. OFF.

PIONEERS IN PROCESS CONTROL SINCE 1889

PAPER TRADE JOURNAL

ESTABLISHED 1872

SIXTY-FOURTH YEAR

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

Published Every Thursday by the LOCKWOOD TRADE JOURNAL CO., Inc.

GEO. S. MACDONALD, President — J. BANNINGA, Sec.-Treas.

Published at 34 No. Crystal St., East Stroudsburg, Pa.
Executive and Editorial Offices: 15 West 47th Street, New York
Chicago Office: 123 West Madison St.

TABLE OF CONTENTS

Bids Invited for Great Lakes Paper Co.	11
Reconditioning Childsdale Mill	11
Chicago Paper Demand Irregular	12
Dr. Merchant Addresses Paper Salesmen	12
To Be Control Superintendent	12
Philadelphia Paper Business Expands	13
Census of Pulp and Paper Manufacture	14
Obituary	17
Plans for Packaging Exposition	18
Boston Paper Industry Happenings	18
A. Thomson for Stream Purification	18
Downingtown Paper Co. Improvements	18
Motorized Variable Speed Transmission	21
Indianapolis Interested in Prices	21
Buffalo Waste Paper Opens at Erie	21
Water Soluble Resin Abopon	21
New Hancock Globe Valve	22
W. S. Hewins Made Asst. Secretary	22
Boston Paper Market Fairly Active	23
Z. W. Ranck Returns from Europe	23
France to Develop Paper Industry	23
Ideal Commutator Catalogue	23
Construction News	24
Vegetable Parchment Exports Lower	25
Humidity Control for Paper Machines	25
Paper Concerns Report Business Good	25
Editorial	**26**
Analysis of Anti-Dumping Act	27
Desist Order Against Kraft Mills	27
Weekly Production Ratio Report	27
Plans for National Paper Trade Meeting	27
Technical Section	
The Testing of Newsprint with Respect to Printing Quality	29
Testing Fiber Building Boards and Pulp	34
Pulp and Paper Industry Literature Review	40
Lagerloef Trading Co. Joins TAPPI	44
Imports of Paper and Paper Stock	45
New York Market Review	**47**
Miscellaneous Markets	**48**
Market Quotations	**48**

THE PAPER TRADE JOURNAL is indexed in Industrial Arts Index

Want and For Sale Advertisements, 54-55

Diary of a TELETYPEWRITER at Kimberly-Clark

THE general office of Kimberly-Clark Corporation at Neenah, Wisconsin, is connected with the Chicago sales office by Bell System Private Line Teletypewriter Service—and with the Niagara Falls mills by Teletypewriter Exchange Service.

To show how the various departments depend upon the speed and accuracy of "typing-by-wire," here are lists of subjects comprising part of a typical day's flow of communications between Chicago and Neenah—the Diary of a Teletypewriter.

SALES DEPARTMENT

Book Paper Group

1. Quick delivery requests.
2. Car number requests.
3. Instructions on special orders.
4. Customer inquiry on products.
5. Demurrage charge inquiries.

Specialty Paper Group

1. Orders—ship today.
2. Requests for rulings on trade customers.
3. Customer inquiries on delivery dates.
4. Items to be added to orders.
5. Salesmen's route changes.

Crepe Wadding Group

1. Specifications.
2. Stock on hand at mill.
3. Asking Niagara ship special orders.
4. When specific carload ready.
5. Passing rush orders.

PURCHASING DEPARTMENT

1. Ordering repair parts.
2. Purchase of operating supplies.
3. Change in production methods and equipment.
4. Asking date repair parts will be shipped.
5. Specifications for maintenance part.

TRAFFIC DEPARTMENT

1. Car route and freight charges.
2. Checking shipments leaving mill.
3. Locating cars en route.

ADVERTISING DEPARTMENT

1. Checking delivery of paper stock for advertising.
2. Miscellaneous information.

"Typing-by-wire" speeds up communication, helps to prevent errors with accurate written records of every message, and assures better, faster customer service. Your business can probably use it profitably. Call the local Bell Company.